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Address.

THE RELATION OF THE MEDICAL PROFESSION TO PREVENTIVE MEDICINE.*

BY HAVEN EMERSON, M.D., NEW YORK.

THREE parties are concerned in the prevention of disease,—health department officials, the citizens as a whole, and the medical profession.

The officials are concerned with the administration of laws based upon the application of accepted facts to actual living conditions. They are bound to carry out the provisions of the sanitary code of state or town and to enforce other laws, whether federal, state or local, which apply to the protection of health and life.

Citizens are obliged under the law to abate nuisances, when notified. They must give notice of the presence of communicable diseases. They must refrain from any act and avoid permitting any conditions harmful to health. The citizen's complaint is, in a way, a measure of public opinion for or against conditions supposed to have some relation to health. He is entitled to protection from the ignorance or neglect of his neighbor. He cannot be trusted as a sanitarian to inspect or estimate the importance of conditions he is annoyed or endangered by. He can be educated to demand improved sanitary standards, and his capacity for education and his respect for law are the measures of the possibility of progress in preventive medicine, everywhere except under military conditions, where the citizen has no choice but to obey.

As licensed to practise by the state or (it is to be hoped) in the future by the nation, practitioners of medicine bind themselves to observe and operate the laws. They are specified under various federal, state and local laws among other privileged professional groups as having certain duties and responsibilities in the matter of reporting births and deaths, notifying communicable diseases and occupational diseases or poisons, and in the use of drugs. They are the unofficial agents of the state and local health boards. Their contract with their consciences is expressed in their Hippocratic oath. Their contract with the state is expressed in the license to practise. Both informal and formal engagements bind the practising physician to heal the sick.

The citizen is helpless without his physician. The community accomplishes but little, and that little slowly, and wastefully of time and money, without its health officer. Health officer and physician are at disadvantage unless they recognize their respective fields and duties. The physician can no more do his full duty by his patient without the coöperation and assistance of the health officer than can the health officer serve the community unless the practitioner of medicine is his assistant.

The health officer is, or should be, a full time, suitably paid, qualified physician, a civil service appointee, and competing in no way with the practitioner of medicine. His function is to diminish the need of the practitioner as a therapeutist and to develop new and wider fields of

* Read at the meeting of the Harvard Medical Alumni Association, Boston, May 20, 1915.

usefulness for the practitioner as a diagnostician, and student of epidemiology, as analyst of personal and social and even economic disease, as educator of persons, groups and communities.

Treatment of disease should be no part of the functions of a Department of Health, except where existing facilities are lacking, and the burden is properly a community one, and the people concerned are too poor to pay.

In New York City we treat trachoma in the indigent, and remove tonsils and adenoids as other dispensaries and hospitals do, after the same kind of social investigation of each case as dispensaries are required to give. We refract school children who are too poor to go to oculists. We maintain diagnostic clinics for tuberculosis, syphilis, gonorrhea, and occupational diseases. We maintain hospitals and a sanatorium for tuberculosis, and hospitals for measles, diphtheria and scarlet fever. We provide accommodations under police power for such tuberculosis and syphilis patients as are a public menace, and decline to submit to treatment voluntarily, or to obey sanitary regulations.

We used to administer diphtheria antitoxin on request by physicians, because of dosage and procedure were unfamiliar to most physicians when diphtheria antitoxin was introduced. We discontinued it two years ago at the request of physicians who said the department was taking the bread out of their mouths. The increase of diphtheria in the past two years makes us suspect that the practitioners of medicine are not using antitoxin as promptly as necessary, or for immunizing doses as freely as was formerly our practice, and as is necessary to control the disease. We administer tetanus antitoxin by the intraspinal method at physicians' request, as the method is not universally understood and the dosage is often unsuitable when called for from our laboratories by physicians. We vaccinate as necessity arises. I think this completes the record of our services for the treatment of disease.

We find a very general failure throughout the city on the part of the public dispensaries to treat syphilis and gonorrhea effectively or, I may say, in a way warranted by our present knowledge of diagnostic and therapeutic possibilities. It seems quite possible that the only way of obtaining a higher standard of diagnosis and cure for these preventable notifiable diseases, will be to enter the field of therapeutics.

We have shortened the period of quarantine to conform to the results of exact studies in whooping cough, measles and scarlet fever. A measles patient is released five days after the appearance of the rash unless the physician in attendance decides to extend the quarantine because of the existence of infectious discharges from nose or ears or persistence of cough. This practice is based on the evidence produced by Anderson and Goldberger, which showed that measles was not transmissible in monkeys for more than three days after the appearance of the rash.

A whooping cough case is not quarantined more than two weeks after the appearance of the whoop. This is based on the evidence of our own bacteriologists, who have been unable to isolate the specific microörganism from the sputum at a later date than two weeks after appearance of the whoop.

A case of scarlet fever is freed from quarantine 30 days after the appearance of the rash regardless of the incompleteness of desquamation, except when there is a persistence of discharges from nose, throat or ears. This is based on clinical experience within the department, and the fact that scales do not appear to be capable of conveying the disease.

Diphtheria is quarantined only until two successive negative cultures are obtained from nose and throat. We no longer demand fumigation of the premises after measles, diphtheria, scarlet fever and tuberculosis. We demand personal cleanliness during the course of the disease and thorough cleaning of premises with soap and water, followed by ample ventilation. The failure of gas fumigation to penetrate and the inefficiency of fumigation as a safeguard have led to this decision.

According to the grade of intelligence of the family and the character of medical and nursing services provided for the sick, we either merely observe the case at outset and make no further visits, or the case is kept under careful supervision during the communicable stage to prevent failure of personal quarantine.

We have carried on a persistent campaign in all classes of the community for universal annual medical examinations by competent physicians. We have undertaken studies of occupational diseases and have urged upon employers the necessity of employing a physician as a part of their force to study their employees, to guide their industries as far as physical welfare and fitness to work, hygienic conditions of employees at home and at work are concerned, and as a teacher of human efficiency.

Many physicians whose work has been limited to so-called old-fashioned regular family practice, have noted a falling off in their incomes. This is but natural in view of the marked reduction in preventable diseases and in the diseases of the first two decades.

To offset this, we are creating a demand for the services of physicians as diagnosticians and practitioners of preventive medicine among the healthy or but slightly afflicted, and we are developing a need for physicians as agents of the state, their services to be administered for the benefit of the whole community.

The community is not getting the benefit of more than a small fraction of the knowledge and skill available in the profession of medicine. It never will until some system of administration, either by voluntary coöperation or by compulsory organization, is developed which will provide services in proportion and of the kind needed by the community.

Voluntary coöperation is shown in its best

form by associates in medicine, surgery, and the specialists who work as a unit from joint offices, or as the staff of a community hospital; such groups of clinicians resembling in efficiency the medical board of a well organized public hospital.

Compulsory organization has been attained in England and with a large measure of success. Something better should grow from it, and it would not be strange if we saw some State insist upon obtaining for its often helpless and uninformed citizens, its quack-ridden foreign factory operatives, etc., the services of a group of state physicians serving the communities in proportion to their needs in kind and amount of services, and paid for by taxation for public health service.

I do not believe a State medical service is the inevitable solution. The profession has a wonderful opportunity, which it must grasp promptly, and handle in a way worthy of its past record of public service if it would avoid the charge of considering its own interests before that of its patients. The community respects the profession, it looks to it for the solution of most of its ills, it is ready to support all reasonable measures and expenses asked by the profession, but there is a strong feeling that few physicians are as interested in prevention as they are in treatment. This impression must be dissipated.

Constipation cannot be treated without a personal knowledge of the patient's habits of life. A diagnosis of valvular heart disease is of no use to the patient unless you know how many flights he climbs to get to work each day. Positive sputum and a pulmonary lesion, even verified by x-ray and followed by suitable advice to the tuberculous, does not express the full function of the physician. Are others in the same shop or house developing tuberculosis? Are you treating a person or a community disease, assisted by alcoholism, developed in poverty, infected in a neglected environment?

The medical adviser's work is only just begun when diagnosis and treatment are offered. Diagnosis is only fragmentary if it is merely anatomical. Does the oculist find out why the child with a moderate myopia at six is a severe sufferer at eleven? Has he visited the school, noted the faulty adjustment of seat and desk, light and size of type, and by his protest saved others from a similar misfortune?

Has the aurist followed his chronic otitis case to the fur shop and seen the environment in which the daily dose of hair particles develops the chronic catarrh of the nose and throat, which will determine a certain number of deaf workers, so many cases of bronchitis and asthma?

No! They leave those things to the Health Department. The people learn the cause of their defects through the Health Department, and their family practitioner might have told them first and become the adviser to a trade group as well as to an individual.

The Health Department should be the servant of the medical profession and the public. The physician should coöperate as an associate instructor, as a volunteer field agent for the Health Department. The citizens show every inclination to support liberally both groups, and they are learning that preventive medicine is as good an investment as fire insurance.

The Health Departments are supported by a moderate tax upon all, for community improvement. Individuals will as readily tax themselves, and more liberally, for personal betterment if they can have some assurance that the character of services is the best obtainable and will be maintained. No individual physician without unusual resources can command for his patients the service of supporting experts and special data necessary to arrive at a thorough opinion as to his patient's condition. It is not the simple matter of distinguishing by a culture, a blood count, an x-ray or a skin reaction between two or three possibilities, with the certainty that careful clinical observation and treatment applied with good judgment will give the patient relief. The problem is one of detection of as yet unsuspected early indications of susceptibilities, approaching deviation from the normal limits of individual variation, tendencies to degeneration, chronic diseases of nutrition, progressive departure from safety in various functions. To give an opinion to a healthy man that he is well and free from threatening infirmities, to warn and advise the one who begins to show the damage of worry and severe strains, to check the over-zealous, to warn the lazy of the penalties of atrophy, to safeguard the special senses against abuse,—these take a much higher grade of diagnostic skill, a greater degree of cooperation among physicians, variously skilled in specialties, than does the practise of medicine upon the sick.

Coöperation is fundamental. The beginner cannot go it alone, he must combine with his contemporaries, or be associated with his seniors, or obtain permanent opportunities to get laboratory and technical assistance to complete his own physical examination. Chemistry and physics have got too far in applied medical diagnosis to permit any man to be his own complete laboratory assistant.

Can there be any question that the consultations of the future will be studies of doubtful cases of health? The learned discussions over the terminal manifestations of a fatal illness will give way to interpretations of facts as presented by a patient in full bloom of youth or in sturdy middle age.

To accomplish this will demand of the physician that he continue to study and improve. We shall find the post-graduate school a necessity. The state will be justified in adopting the policy of the army medical staff and demand a qualifying medical examination, every five or ten years, as a requirement for continuance in practice, and not alone for admission to practice.

Once the public realizes the present tremendous per cent. of error in diagnosis, even under the best hospital conditions, and autopsies will be demanded, it is to my mind a close question whether the medical profession will feel more humbled or the layman more alarmed when universal and recorded autopsies exhibit the limits of medical capacity.

The opportunity is calling. The medical schools are graduating competent men, postgraduate instruction is available. Coöperation is necessary for efficient service to the public. Preventive medicine, as applied to the families under our care, is a necessity. Will you wait until the State demands that you practise under her control, or will you take the obvious course and meet with organization for diagnostic efficiency, the call of a public increasingly well informed and eager to be advised? Whether we wish it or not we are involved in a stern and stirring conflict, and we cannot do better than to remember President Hadley's words:—

"For, after all, the lesson which observation teaches to the man of brains is the same that instinct has taught the gentleman for many ages past,—that in any conflict which is worthy of the name, strength counts for less than intelligence, intelligence for less than discipline, discipline for less than self-sacrifice, or to put it in positive words, that unswerving devotion is the thing that counts for most of all."

Original Articles.

THE SYPHILIS WE SEE BUT DO NOT RECOGNIZE, AND THE IMPORTANCE OF FAMILIAL STUDIES.*

BY HENRY FARNUM STOLL, M.D., HARTFORD, CONN.,

Assistant Attending Physician to the Hartford Hospital, Hartford, Conn.

SHORTLY after the establishment of a special clinic for the treatment of syphilis at the Hartford Dispensary I remarked to a medical colleague that we were prepared to treat any of his patients who might need salvarsan but who were unable to pay the usual charge for treatment as private cases. He thanked me for the information, adding that he rarely saw any cases of syphilis in his practice but that if he should run across any, he would remember us.

I refer to this conversation because it is typical of the reply the average physician would make and is exactly what I would have said under the same circumstances a few years ago. A definite case of syphilis that could be diagnosed by a third-year medical student is one thing and the individual with some obscure symptom or physical sign who appears in the consulting room of the general practitioner rather than in that of the syphilographer, is a very different affair. Especially so if the patient be a man or a woman of eminent respectability, and the cases here reported we might meet in business, at the club or in any drawing-room.

I have purposely included several cases that were not correctly diagnosed until many months after they first came under my observation, as it is only by recognizing our mistakes, that we can hope to lessen their frequency.

CASE 1. A man of forty consulted me some four and a half years ago because of a cough which he had had for nine years. He was also weak and each morning for the past six months had a severe headache on awakening. His coughing spells were severe and the paroxysms so marked that at one time he fell from his wagon. Another time he was sitting at a table and he coughed so severely that he fell from his chair. He was an inveterate cigaret smoker, drank to excess, overate and under exercised. He had had much sour stomach and five years ago his appendix was removed. Each night he arises two to four times to pass his water. Recently he has been taking some headache medicine several times a day. His family history was not particularly remarkable. His mother died of "asthma", age fifty-three, she was subjected also to hard coughing spells. His wife is living and is somewhat of a "neurasthenic". She has five children and has had several criminal abortions. Twenty years ago, prior to his marriage, he had some insignificant venereal sore which was not followed by any secondaries.

He was a very large man, weighing 220 pounds, with a bluish tinge to his hands and lips. He had the "wheeze" of chronic bronchitis and emphysema and there were sibilent râles over both lungs.

The urine exhibited a trace of albumin from time to time and occasionally a few casts were seen. No tubercle bacilli were found in his sputum. The systolic blood pressure was 100. This was a surprise because the history of morning headaches and nocturia at once suggested hypertensive disease. Quite recently Volkhard[1] drew attention to the fact that syphilis not infrequently causes this picture, for which he has suggested the term "nephrosis." The diagnosis in this case was chronic bronchitis, emphysema, nicotine and coal tar poisoning. It also seemed probable that there was some cardiac and renal pathology. It was impossible to obtain the cooperation of the patient in regard to his vicious habits.

A small dose of sodium bromide and potassium iodide made him feel better. About eighteen months later he again came in complaining of very severe headaches during the night, especially in the early morning, and of some pain across the chest. He was smoking about three packages of cigarets a day and taking headache wafers. His lips were still blue. The systolic blood pressure was 135 and the urine contained a trace of albumin. At this time he drew my attention to a horny condition on the back of his hands near the knuckles. As this looked like a late skin syphilide, Wassermann and luetin tests were made and both were very positive. His headaches were of such severity that a lumbar puncture was done but except that the pressure was over 250 m.m. the fluid was negative. He received several injections of neosalvarsan and mercury and ulti-

* Read before the Tolland County Medical Society at Stafford Springs, Conn., October 19, 1915.

mately his headaches disappeared though they did not respond promptly. Had I thoroughly investigated the health of this man's family when I first saw him I might have made the correct diagnosis at that time rather than eighteen months later. His wife has been more or less constantly under medical care for nervousness and "dreadful headaches". The eldest son stutters very badly and eight years ago had "sore eyes" and at this time had an acute interstitial keratitis. A daughter of fourteen is very robust but has one short arm. Another daughter, age ten, is subjected to headaches. A third daughter of seven years also has a short arm. With one exception, all had either a positive Wassermann or luetin test.

This family illustrates the tragedy that may follow in the wake of an ante-marital infection and shows hereditary syphilis as an active disease and as a creator of dystrophies.

While it has long been known that headaches of acquired syphilis are rather more apt to be severe in the early morning, it is not generally appreciated, however, that hereditary syphilis may cause exactly the same sort of headache. Excluding headaches due to acquired syphilis, the eyes, kidneys and intestinal stasis, I believe the majority are due to a prenatal luetic infection. Many cases of migraine belong to this group. Many, perhaps most, of these individuals do not show any of the common stigmata of hereditary syphilis.

Case 2. A young woman of twenty-four, married five months, complained bitterly of headaches. As a child she was very well but about six years ago she began to suffer from severe headaches. They would sometimes come on during the night and would be so severe that they would awaken her: they usually were somewhat better by noon. She has one sister who suffered so severely from headaches that she had to leave school. Many physicians were consulted but neither of the young women obtained relief. Her mother is living and appears to be in good health. There are two brothers and two sisters and the mother has had two miscarriages. Her husband has had no venereal disease.

The fact that the father had died at fifty from "shock", was the first thing to suggest the possibility of syphilis, as sudden death at that age is usually due to that cause.

This young woman was an exceedingly fine looking, healthy individual. She had excellent teeth and the only thing noted was the fact that her eyes were slightly prominent which, however, she informed me was normal for her. The Wassermann was very strongly positive. She was put on active treatment, potassium iodide and daily injections of mercury for the first two weeks, then salvarsan.

She received several injections of salvarsan, with ultimately marked relief but for the first week or ten days however, after the treatment was begun her headaches were definitely worse. This is a very significant fact as I have repeatedly observed headaches, joint pains, anginal pains, etc., made distinctly worse when specific treatment was first instituted. In fact, aggravation of the symptoms occurs so frequently that it is in a manner diagnostic and it is because prompt relief has not followed in many instances that specific treatment is often discontinued before it has really been thoroughly tried out. Since putting this patient on specific treatment, the slight exophthalmos has become notably less.

A group of cases whose etiology is obscure and whose treatment is unsatisfactory comprises the patients who complain of an indefinite pain in the precordial region. This pain frequently seems to be caused by gas in the stomach and is sometimes relieved temporarily by belching. Like the pain of the so-called "real" angina this lesser pain may be referred to the left shoulder. Sometimes one may detect an obvious lesion of the heart or aorta; more often they show absolutely nothing on physical examination. They are usually more or less neurotic individuals who are concerned, not because of the severity of the pain, but because it is situated in the region of the heart. When asked if they would consult a doctor if they had a pain of equal severity, for instance in their shin, they invariably say, "No."

Nothnagel who studied four hundred and eighty-three cardiac cases found that 60% of the cases of aorta insufficiency and 68% with aortic insufficiency and stenosis complained of this symptom, while 7% of the cases of mitral insufficiency had precordial pain in 17% of mitral insufficiency with stenosis.

Considerable evidence has been accumulated both in this country and in Europe to show that a very large number (80 to 90 per cent.) of cases of aortitis are due to syphilis.

I have records of about fifty patients who complained of more or less constant pain in the region of the heart; for the most part unaccompanied by physical signs.

They will be discussed at another time. It is sufficient to state that in many there is reason to believe that the symptoms were due to a prenatal syphilitic lesion of the aorta or coronary arteries, which belief was strengthened by the marked improvement or complete recovery that usually followed specific treatment. The following case is typical of this group:

Case 3. A married man of thirty-two consulted me over two years ago because he "choked up" and belched gas. He had always enjoyed the best of health and was an unusually robust appearing individual. His father and mother were living, the latter was stated to suffer slightly from "indigestion."

Some six months before, after eating peanuts, he felt faint and since then every few days he has had an uncomfortable feeling of pressure in the region of his heart. He also has experienced some slight pain in his left shoulder. He has observed that the pain is worse when he lies on his left side but at no time does he suffer intensely, though he appears very nervous because his distress is in the region of the heart.

He smoked excessively, exercised but little, used alcohol moderately and ate heartily of meat twice a day. Eight years ago he had gonorrhea which promptly responded to treatment. Pulse rate was 80, systolic pressure 125, diastolic 110. There was

no enlargement of the heart but along the left border of the sternum the first sound was not entirely clear though it could scarcely be designated as a murmur. His urine, except for excessive amount of indican, was negative. A low proteid diet, exercise, buttermilk with a small dose of bromide after meals was prescribed. Tobacco was also interdicted.

Following this treatment he seemed to be better for the first week. Soon, however, he complained of "little sharp pains" in the precordial region occasionally going to the left arm. Never in the right arm. Sometimes this pain lasted an hour or so and other times it was of much shorter duration. He has several of these attacks every day. Except for this, he assured me he "felt like a two-year-old."

Because the pains increased and as he gave a strong luetin test he was put on injections of sodium cacodylate hypodermically, alternating with mercury salicylate.

After several weeks of treatment the pains completely disappeared but about five months later they recurred slightly. At this time the Wassermann was negative, the luetin was strongly positive.

He was given several injections of mercury and three of neo-salvarsan. Ten days after the last injection he said he could lie on his left side without discomfort and he had had no pain whatsoever through his left chest since the last treatment.

His Wassermann six weeks after treatment was discontinued was again negative, the luetin was slightly positive. He has had no treatment for over a year and within a few weeks he told me he was feeling first rate and had not had any recurrence of the pain. It was assumed because of his apparent good family history and from the fact that he had gonorrhea eight years previously, that he had acquired syphilis then. As it will appear from the study of his mother's case, which follows, it is probable, however, that his trouble was due to hereditary syphilis.

CASE 4. About a year and one half from this time his mother, a woman of fifty-five, consulted me because she was exceedingly nervous and could not sleep at night. She also complained of shortness of breath on exertion and a "beating" in her neck.

Her family history was not remarkable. She had had seven children, five of whom died in infancy and childhood. The son is the case just previously described. Her daughter is subject to severe headaches for which she has unsuccessfully sought relief.

The mother was a large woman whose systolic pressure was 193 and diastolic 143. Except for an occasional extra systole the heart was negative as was the rest of the examination.

The Wassermann reaction was negative, the luetin test was strongly positive. The urine contained neither albumin nor sugar. She was put on potassium iodide and mercury by mouth which was continued for several months, I think she also took inunctions of mercury though I do not find it so recorded. One month later she was sleeping very much better and had ceased to be nervous. Her systolic blood pressure at this time and two weeks later was 180. Nine months later I was told by her son that she was still sleeping well and was not nervous and that her general health was better.

Insomnia, especially in the early morning hours should not be regarded lightly as it is frequently a forerunner of a serious syphilitic process of the nervous system.

A large and important group comprises individuals with hypertensive cardiovascular disease as syphilis seems to be the underlying factor in a much higher percentage of these cases than we have hitherto supposed.

As the result of a recent study[2] of a series in which other members of the family were investigated as well as the individual with hypertension, the statement was made that hereditary syphilis plays a very important rôle in hypertensive disease of middle life.

It was furthermore suggested that the families prone to early cardiovascular degenerations are really manifestations of familial cardiovascular syphilis.

CASE 5. A woman of about sixty was referred to me several years ago. For years she had been exceedingly nervous, short of breath, and complained much of precordial distress. Her blood pressure for at least ten years had varied between 180 and 200. Her father had been much addicted to alcohol and died at an early age, of an unknown cause. Her mother had also died early in life but the nature of her illness was unknown. The patient's husband is a man of exemplary habits and has never had any venereal disease. The heart was somewhat enlarged to the left but the sounds were clear at all times and the action was perfectly regular.

This patient complained mostly of a pain under the left breast which was somewhat relieved by compressing that side of the thorax firmly with her hand. For several years her condition did not change and every few months the services of a trained nurse would be required because of nervous attacks.

The Wassermann was negative, which may have been due to the fact that she had been on small doses of potassium iodide for about ten days. However, the Wassermann reaction is very often negative in adults with hypertensive cardiovascular disease due to syphilis when the luetin test is positive. The value of the luetin test is considerably enhanced if the patient be put on mixed treatment for a week before it is used and for about two weeks thereafter. The reaction may be delayed two or three weeks. This test was exceedingly positive, in this case, the pustule resulting being very large. She has received injections of mercury with potassium iodide by mouth for over a year with a marked improvement. She has not required the services of a nurse during the past winter and has gone out more socially than in many years. She has still some distress through the left breast but it is much less frequent and not so severe. She is also inclined to be nervous but this symptom is also markedly diminished.

The dyspnea on exertion has not materially changed. The phthalein kidney function before treatment was instituted was 22% the first hour and 7% the second hour, total of 29%.

Eighteen months later it was 47% the first hour and 23% for the second hour, total of 70%.

Recently when she was particularly free from

nervousness her systolic pressure was 150, diastolic 80.

Early in September she stated that it had not been necessary for her to go to bed this year because of hay fever, for which she was particularly pleased, as for many years she has spent from two to four weeks in bed because of that trouble and the weakness resulting therefrom.

I do not think one is warranted in assuming that her treatment was responsible for this, except in so far as the improvement of her general condition is concerned.

Sherrick[3] has recently made the statement that 99% of all non-syphilitic individuals will react positively to the luetin test if they have received poassium iodide previously or after the test has been given

His article, however, is not convincing, as the cases he considered as "non-syphilitic from every standpoint" included patients suffering from brain tumor, hysteria, sciatica, traumatic neurosis, chronic nephritis, epilepsy, exophthalmic goitre and arterial sclerosis, any one of which might be due to hereditary syphilis; a negative Wassermann being of no value in excluding hereditary syphilis in adults. It furthermore would seem that the reaction he obtained following the injection of agar and emulsion of starch, might have been an evidence of *"umstimmung,"* or skin irritability which syphilities often possess to a variety of substances.

I have frequently observed the *umstimmung* at the site of the "control" which Noguchi at first used on the opposite arm, to be particularly marked in cases that had received treatment. Frequently it was as strong as the luetin test itself.

In hypertensive cases with a systolic blood pressure of moderate degree very definite improvement will sometimes follow mercury injections and potassium iodide if continued over a period of several months. When the systolic pressure reaches two hundred or above it is questionable whether improvement will follow.

I have given salvarsan to several of these cases but except for the relief from anginal pains I have been more impressed with the improvement that follows mercury and potassium iodide.

To cope with the problem of syphilis it is essential to look upon it as a familial disease. We are only doing a small part of our duty when we treat the patient with interstitial keratitis. His father and mother, now in middle life, are quite likely beginning to show some of the late manifestations of syphilis and his sister, perhaps about to marry, may have a positive Wassermann.

All members of the family should be examined when a case of syphilis is discovered.

Practically, this is often impossible, as the average citizen who feels well does not want to be tested and refuses "to doctor," even if the tests prove him specific. This fact, however, in no way excuses the physician from doing his duty.

The next three cases illustrate this importance.

Case 6. A widow in middle life, who had enjoyed good health prior to her marriage, consulted me because of several hemoptyses. The physical examination showed many râles at both apices and over the right lower chest in front. Tuberculosis was diagnosed and she was sent to a sanatorium. There were several points in her history, however, that required further investigation. In the first place she had had headaches and been dizzy for a number of years and her hearing was impaired in the left ear. She had also had darting pains in the ends of her fingers "like needles", and in common with all the members of the family she had suffered from "rheumatism" which, upon inquiry, was shown to be vague pains in different parts of the body. Her husband had died suddenly at the age of fifty-eight. He had been a widower for a few years prior to his marriage to my patient. Through the courtesy of his eldest son by his first wife I ascertained that all of the children of his first marriage were in excellent health save my informant who had traumatic epilepsy. At my request he had a Wassermann made which was negative. My patient had a very strong Wassermann and luetin test. Through the courtesy of Dr. McPartland I was enabled to test her own son and daughter. The latter, about thirty, was undersized, stunted in appearance, of unhealthy color, and very excitable. For years she had suffered from headaches of extreme severity which were often accompanied by vomiting and at times required morphia. The son was illegitimate, being born after her husband's death. He had suffered from some congenital eye disease in early age and at one time a large amount of skin "peeled off" his body. He is quite immature mentally. Though twenty years of age he is quite happy to be about in an "Indian costume" and play and sleep in a tent. He attends to his work, however, every day, though his mother is concerned that he is so interested in childish amusements.

Both son and daughter exhibit strongly positive Wassermann and leutin tests. The latter experienced much relief from her headaches after specific treatment but they recurred later on when treatment was stopped.

The mother's headaches were at times so severe that an examination was made of her spinal fluid but it was entirely negative. She was greatly improved by neosalvarsan and mercury. Her hair and eye brows were quite grey when the treatment was instituted; subsequently many new hairs appeared all of which were black, which was the original color of her hair.

It seems probable that her husband contracted syphilis sometime between the death of his first wife and his second marriage.

The family history in this case was particularly interesting because all of the members had suffered for years from what they considered "rheumatism", that is vague pains in different parts of the body, sometimes in the "muscles" again in the "bones", then in the joints. These pains are more apt to be worse in bad weather. The "rheumatism" of this family was completely dispelled by specific treatment. We are only just beginning to learn that hereditary

syphilis of the bones, periosteum, synovial membranes is a common condition. Very often it is considered tuberculous.

CASE 7. A young man of twenty-five referred to me by Dr. Swett first noticed a stiffness in the calf of his leg some five or six years ago, when playing baseball. This was not constant and caused him no pain. He has, however, limped for about two years and when sitting quietly he has a "nervous feeling" in his leg. Shortly after the onset he noticed that his

FIG. 1.
Case 7. Hereditary syphilis of knee simulating tuberculosis.

knee was swollen. (Fig. 1). He had taken "rheumatism medicine" and for the past year had been having it massaged. The x-ray picture was not conclusive though suggestive of an early tuberculous focus in the inner condyle of the femur, which seemed probable, as the Wassermann reaction was negative. He entered the hospital for further study and possibly for the resection of the joint. He was given the tuberculin test and a general reaction resulted but no focal reaction occurred in the knee. He was then given the luetin test which was positive.

Upon examination the only stigma suggesting congenital syphilis was a very high narrow palatal arch. I found, however, that his mother had a systolic blood pressure of over 200. It was furthermore learned that his father had had a venereal disease prior to his marriage and had been sexually immoral. His mother had two miscarriages and her oldest daughter became deaf when about thirteen and has "awful headaches with noises in her ears." Glasses relieved her somewhat. This sister, whose palatal larch is also narrow and high, has a very positive Wassermann reaction. The mother's Wassermann is negative but the luetin was positive.

Perhaps, the most instructive thing about this case was the fact that his Wassermann, cholesterin antigen, was negative. Everyone who writes about the Wassermann states that a negative test does not exclude syphilis, but nevertheless, the majority of physicians discard the diagnosis of syphilis when one or two negative reports are obtained. Yet the failure to find tubercle bacilli in the sputum by no means excludes the possibility of tuberculosis when the symptoms and signs point to that disease.

It is undeniably true that innocent persons free from lues have had the stigma of syphilis attached to them, due to laboratory mistakes, but the number of persons equally guiltless, though suffering from syphilis, who have been denied active specific treatment because of a negative Wassermann, I believe, is greater.

This case further demonstrates the value of the subcutaneous tuberculin test in bone and joint lesions. Though he had a general reaction showing that he had a tuberculous focus, there was no reaction in the lesion in question. His response to salvarsan and mercury has been very gratifying.

CASE 8. An unmarried girl of twenty-one referred to me by her physician. Following an injury about a year previously she noticed a swelling in the back of her left leg. As there was much that suggested an inflammatory process an operation had been performed and a mass removed, which proved to be a gumma. A Wassermann reaction was subsequently very positive.

A careful study of this young woman and her family, however, would have suggested the possibility of congenital syphilis and this operation would have been avoided.

In the first place, although she was twenty-one years of age, she did not appear, either physically or mentally, to be over sixteen.

Her palatal arch was high and narrow and she stammered badly. I do not know what the relationship between congenital syphilis and stammering is but several patients who were badly affected with this distressing condition all had some manifestation of hereditary syphilis. It seems that it might be classed with the dystrophies due to this condition. It was, furthermore, necessary only to see the mother to have syphilis suggested, because of the ptosis of her left eye lid. When questioned as to the health of the other members of the family the information was obtained that the next youngest daughter had been told that she had a serious "blood disease" some years before when she consulted a throat specialist because of a perforation of her palate. The mother and younger sister who is "all right" now had strongly positive Wassermann's.

Again we see the great importance of looking upon syphilis as a familial disease. Had this been done when the sister consulted the throat specialist and had he insisted upon the other members of the family being examined, it is quite probable that adequate treatment would have prevented the development of the gumma in the leg of this patient as well as the periostitis which

the mother developed later on. This case is also of interest because of the apparent effect of trauma in the development of the syphilitic focus.

The detection of the stigmata of hereditary lues in the children may explain an indefinite illness in a parent as the next case illustrates:

Case 9. A woman of sixty-two complained of stomach and intestinal trouble of four years' duration. Questioning, however, brought out the fact that there were no symptoms definitely referable to the stomach but she had suffered from diarrhea for several years, and each day she would have four or five liquid stools. The odor was described by the patient as being rancid. Much of the time she had what she described as a "slow pain" in the upper part of the abdomen. She has also suffered from "bilious attacks" for several years.

Several years ago she was very ill and the diagnosis of pyelitis was made, and for many months she took urotropine off and on with benefit. She suffered considerably from headaches in the morning and has lost a great deal of strength lately. For this reason she has been forced to lead a very much less active life than formerly.

There was nothing particularly note-worthy in her family history. She looked to be much older than she was and the only thing discovered on physical examination was that the liver was considerably enlarged and moderately tender over the left lobe. The rectal examination was negative.

With a person of her age one's first thought would be a malignant condition involving the liver and probably the large intestine as well. The "bilious attacks," however, were very suggestive of gall stones.

Her two daughters accompanied her to the office, and it was about this time that the older daughter smiled. It could be truthfully said that she had an "illuminating smile" (Fig. 2) as the anterior sur-

Fig. 2.

Case 9. Small hyperplastic areas in many of the teeth, commonly attributed to diseases of childhood, but in reality usually due to hereditary syphilis.

face of all the incisors were studded with a number of small hypoplastic areas, many of which had been filled with gold. This daughter, who was thirty-one years of age, also had a very heavily furrowed tongue, and when eight years of age, she had also had an acute glossitis and the tongue was nearly perforated. As a child she had suffered much from growing pains in her legs and has always suffered from severe headaches. She says she is "always tired." The other daughter had a high, narrow palate. Upon questioning the mother, I ascertained that her husband had died from "general debility" at the age of fifty, and that he had been very immoral sexually.

Three of her pregnancies were stillbirths. The mother and older daughter had a negative Wassermann, but in both the luetin test was positive. The mother's strength and endurance were greatly increased by inunctions and potassium iodide, but as she continues to have an occasional bilious attack, especially at night, an operation has been advised on the assumption that she may also have gall stones. Syphilis of the liver, however, may simulate gall stones very closely.

I cannot take up the question of the teeth in the diagnosis of hereditary syphilis but I feel strongly that syphilis leaves its mark on the teeth much more frequently than we are apt to think, and that most of the dental hypoplasias are the result of hereditary syphilis.

The next three cases illustrate different types of "rheumatism".

Case 10. A young unmarried woman of twenty-three had suffered from "rheumatism" for several months before I saw her in March of this year. She was an exceedingly healthy child, free from headaches and growing pains. About seven months previously she first noticed pains across the base of the toes of the left foot. This pain continued both day and night.

Under the belief that it was due to a fallen transverse arch, a support was made which, however, seemed to increase the pain. Thinking that it might be an infectious arthritis, her tonsils, which were unhealthy, were removed in the fall of 1914.

No improvement followed, however, and the pain shortly thereafter extended to the right knee, then to the left foot. The pain was severe, constant and did not respond to any treatment, although various schools of therapy were tried. Later on, the left knee became involved; finally the heel of the right foot, and for five weeks the patient was confined to bed because of the pain caused by walking.

There has been no improvement since the patient took to bed. She was a large well-nourished young woman, slightly pale, with excellent teeth and gums, and a normal palatal arch. Her pupils reacted to light but were not absolutely regular. The knees were swollen and pressure over the patellae, the inner and outer condyles of the femorae and upper part of the tibiae was painful. The right foot at the base of the great toe was swollen and tender and also the lower part of the os calcis. Passive motion of the knees, however, was not painful.

This was the most significant thing in the whole examination. The tenderness was greatest over the epiphyseal line. In other words she did not have an arthritis of her knees, but rather an epiphysitis of tibiae and femora. Her Wassermann was strongly positive. Her father had a syphilitic infection four years after his marriage, and has had several strokes

of apoplexy and exhibits a positive luetin test though a negative Wassermann.

The next case I recall with embarrassment.

CASE 11. A man of forty-two was referred to me by Dr. Wm. Bartlett for an opinion as to the condition of his lungs. He spoke no English and through an interpreter, whose English was very limited, it was learned that he had been in good health until five years ago but that since then he had been weak and had a slight cough and at one time the sputum had been very slightly blood-streaked. Nocturia three times. A brother had died of tuberculosis a few years before, but the patient had not been with him. He had fine râles, on coughing, over the lower anterior aspect of both lungs and a few at the right apex behind. The heart did appear to be enlarged but the sounds were very faint, being barely audible at the base.

There was no albumin in the urine. The diagnosis made was "tuberculosis not likely; myocarditis with secondary changes in lung"; digitalis was advised.

A year later I discovered the patient in the Hartford Hospital and at that time he presented definite signs of aortic and mitral insufficiency. My embarrassment may be imagined when the house physician pulled down the bed clothes and drew my attention to a number of large scars along both tibiae! I had not looked at his shins.

CASE 12. A colored man of fifty-five consulted me in September, 1914, because of stomach trouble which had persisted for about two years. He had never experienced severe pains but was flatulent and somewhat "sore". This had increased in the last few months. He sleeps well and has a good appetite but has lost considerably in weight. His family history was good. The radial arteries were slightly thickened. Heart and lungs were negative. Except for a movable right kidney the abdominal examination revealed nothing. We have here then a man complaining of digestive disturbances, accompanied by considerable loss of weight and, as he is fifty-five years of age, malignant growth is the first thing one thinks of. Further questioning, however, elicits the fact that sometime ago he had some rather severe pains in his legs, and that the sensation over the upper part of the left foot was poor; "it felt numb." He furthermore has had slight incontinency of urine for several months. He also complains of some pains in the lower part of his back which were "crawling in nature." On examining him further it was noted that both pupils were irregular and almost immobile.

He moreover had no knee jerks. His blood, Wassermann, was strongly positive, but negative in the spinal fluid until after he had had considerable treatment, when it became strongly positive.

This early tabetic, masquerading as a simple case of indigestion, has been very much improved since intramuscular, intravenous and intraspinous treatment has been instituted. Not only have his digestive disturbances disappeared, but his general health is also markedly better. He still has the numbness in his foot, but very rarely any pains in his legs.

CASE 13. A woman of thirty-two was referred to me by Dr. Travis of New Britain, for an examination of her lungs, as she had a slight cough and was weak. I did not find any evidence of pulmonary or cardiac disease. She had always been a "weakling" she stated. As a child she fainted easily and was never strong. She had much headache, which was relieved by glasses. She is sure she has indigestion as she has a feeling of pressure below the sternum. This does not bear any relationship to meals, however, and is apt to be more marked on awakening in the morning and is accompanied by a disagreeable sensation, hardly a pain, which extends upward on the left in the precordial region and sometimes through to the left shoulder.

For some time she has occasionally felt a numbness in the fingers of her left hand, chiefly the little finger. Being out in the cold often brings it on. At such times her finger at first becomes very white, then marked congestion follows, at which time it "throbs". She has frequently noticed it on retiring after eating too heartily. She has slept very poorly for a long time, especially in the early morning hours. She is a frail woman, weighing 104 pounds, with normal pupils but no knee jerks. She stated that her physician had told her several years before that the reflexes were not normal. There was no Achilles reflex and no Babinski.

She had moderate enteroptosis. Her father died at sixty-three of "heart trouble". He had not been a strong man and had suffered from lead poisoning. Her mother informed me that he had contracted syphilis at the time of the Civil War and that he had infected her prior to the birth of their first child. The mother's first three pregnancies were premature, living only a few days, and all were "bleeders". The fourth died at the end of the first week. The fifth was a still birth at the seventh month. The sixth is now living with a spondylitis and the next is the woman herein described. She gave a very positive hemorrhagic luetin reaction but the Wassermann on blood serum and spinal fluid was negative. There was no globulin in the latter and there were six cells per cm.

Though Fournier years ago drew attention to this weakling group, it has received but little attention since. They are always "ailing" yet with nothing definite the matter. They are prone to all types of infection especially to tuberculosis, and they often died, Fournier tells us, of "nothing at all so to speak." The women of this group are quite apt to be sterile.

The case cited is also of interest because she presented the picture of Reynaud's Disease. I have seen one other case in an adult woman who had a prenatal syphilitic infection. Bosamyi[4] has reported two cases due to hereditary syphilis, both of whom were cured by specific treatment. I have treated a number of this "weakling" group with very small doses of salvarsan and mercury both in the form of inunctions and injections but the results for the most part have been very discouraging. But is it not quite likely that some of these unfortunate individuals might now be enjoying their rightful heritage of good health if they had received thorough treatment in their early childhood?

CONCLUSION.

The late symptoms of lues are often vague but their indefiniteness should put us on our

guard. "Chronic rheumatism" and "chronic headache" mean "chronic syphilis" in many cases. The physician who does not avail himself of all the newer tests before making these diagnoses assumes a grave responsibility. By carefully studying other members of the family some evidence of syphilis may be detected when nothing can be discovered in the patient himself. Of supreme importance is the realization that syphilis is a familial disease. It is a problem for the family doctor, not for the genito-urinary specialist or the dermatologist. Finally, we must not lose all sense of perspective and become blind worshippers at the shrine of Wassermann. Admitting that it is the most valuable laboratory test yet discovered, it is not infallible. Positive in nearly all early cases of syphilis it is often negative in the late cases, especially in adults with a prenatal infection. Even when positive it does not prove absolutely that the lesion in question is due to syphilis. The Wassermann and luetin tests should supplement, not supplant, the complete history and careful examination.

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SOME OF THE ANATOMIC-PATHOLOGIC PROBLEMS IN TUBERCULOSIS.*

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Bovine and Human Infection versus Bovine and Human Clinical Tuberculosis. In this short paper I desire to call attention to several very important problems in the realm of anatomy and pathology, which are as yet unsolved, although they have apparently been discussed from nearly every conceivable standpoint.

The question of bovine and human infection has received more consideration during the last few years than almost any other subject connected with tuberculosis, and yet the relationship is far from settled. The scientific world now recognizes it as a fact that bovine tuberculosis infects human beings; but believes equally that the human bacillus is the most common source of infection in human tuberculosis While the non-pulmonary forms of the disease, those which are particularly prone to infect children, are often considered to be produced by the bovine bacillus, pulmonary tuberculosis, which most commonly affects adults, is considered to be nearly always due to the human bacillus. This has been accepted as meaning that tuberculosis in childhood is conveyed to the human race through milk and meat, while tuberculosis in the adult is probably conveyed from one infected individual to another; but such reasoning will not hold, for we know that the human being, both in childhood and adult life, is exposed to human and bovine bacilli, and that both gain entrance to the body.

As far as we know, no matter how bacilli are taken into the system, and no matter what kind of bacilli, if in sufficient numbers, they produce an infection. They may be primarily implanted in other tissues of the body, such as seems to be the case from Ghon's reports; but this is only temporary and, sooner or later, they find their way into the lymph glands and produce lymphatic tuberculosis.

So far as we know both bovine and human bacilli take the same course. Pathologists who have recovered the bacilli and studied them carefully show that in early life infection is often of the bovine type, while in later life it is almost always of the human type. In this connection I would like to mention that infection in childhood may take place in any part of the body where bacilli are detained in their course; and is as likely, or more likely, to be extrapulmonary than pulmonary. The reason for this I shall discuss father on in this paper. It is necessary to cite at this point the very important fact which seems to be well established by pathologists today, namely that the primary infection in the child gives a certain amount of immunity to the disease and makes further infection much more difficult after a primary infection has once been set up in the body; and the further belief that the later infection of the lung or other portion of the body, which manifests itself in adults is, in a very large per cent. of cases, a metastasis from the primary infection which took place during childhood. If, then, both human and bovine bacilli are taken into the body during early life; and, if they both produce a specific immunity against themselves; and, if they both become implanted in the tissues and then follow the same course, either going on to active disease, healing or remaining quiescent for a time, to become active later and spread to other parts of the body; and, if the bacillus recovered from the focus in the child is often of the bovine type, while the bacillus recovered from the infection in the adult is almost never of the bovine type; does it not seem that one of two things occurs: either that bovine bacilli find the soil so unsuitable to their growth that unless they produce active disease at once they die out; or, that the bovine bacilli, remaining in the human tissues during a period of years, finally adapt themselves to the human tissues, and in the process change their morphological and reactive peculiarities and assume the human type? Such

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transmutation is far from unlikely. We must look upon the human and bovine bacilli as being different types of the same organism, and varying only because of their different habitat; the one adapting itself to the bovine tissues, and the other to the human tissues. Why could it not be that by subjecting one to the tissues of the other's host over a prolonged period of time that it would take upon itself the characteristics of the bacillus which naturally inhabits that soil?

Primary Focus and Primary Metastasis. There has been a great deal of discussion on the question of the primary focus in tuberculosis; and also on the primary metastasis from this focus. In tuberculosis of the lungs pathologists have been divided in their opinion as to whether or not the tuberculosis of the peribronchial glands is secondary to the pulmonary involvement or whether the pulmonary involvement is secondary to a primary infection of the glands. This discussion goes on without any particular advantage to the adherents of either theory. Most observers, however, believe that the glandular involvement is first, and that the pulmonary involvement, that is, the chronic apical involvement which particularly characterizes tuberculosis of the adult, is a metastasis from this.

Ghon has recently, however, revived interest in this important discussion and brought forth proof, which seems almost incontrovertible, that the primary focus in tuberculosis is often found in the lung, the infection in the peribronchial glands being secondary to this. To this discussion I would like to add the following observation, which seems to make it possible to harmonize these differences. There is a marked difference in the behavior of the infection which takes place in an animal or human being who is healthy at the time of inoculation and one who is already infected. An infection, when once present, produces a hypersensibility of the cells, and in this way creates a defense against further infection by the same micro-organism.

The mucous membranes and other tissue of the non-infected organism show no specific defense, consequently offer little opposition to the passage of bacilli. This we see in the readiness with which bacilli pass through the tonsils of the little child and affect the cervical glands; or the bronchi and affect the peribronchial glands; or the intestine and affect the mesenteric glands, without being stopped in the intervening tissue. The first important barrier met, prior to the time infection occurs, is the lymphatic glands, the particular structures which are peculiarly active in the defense of the organism at this period of life. After an infection has occurred, however, and the cells of the body have become sensitized to the bacillus and its products, cellular defense becomes general. Then there is a specific opposition offered to bacilli at every point of entry, the degrees varying probably with many circumstances. This was beautifully demonstrated years ago by Koch's experiments, showing that the healthy guinea-pig, when inoculated, shows a slight temporary inflammation at the point of inoculation, which disappears after a short time, but that a very marked involvement of the neighboring lymph glands takes place; while the inoculation of a guinea-pig which is already tuberculous behaves in a very different manner. This difference depends upon the hypersensitive condition of the body cells. The protective influence of the previous infection shows itself in an attempt on the part of the body cells to limit the infection to the point of inoculation; consequently a nodule appears, followed by inflammation, and after a few days, ulceration. The infection, being localized, is thrown off, the neighboring lymph glands remaining free from involvement. Such, my study leads me to believe, is the case in the natural infection in the human body. If tubercle bacilli pass through the mucous membrane of the tonsils or any portion of the upper air passages or lungs or lower air passages, or intestinal tract, they are apt to pass at once to the lymph glands; but in instances where they fail of this and become implanted locally in the tissues, they form small nodules such as those described by Ghon in his remarkable work. But these foci are extremely small, many of them not being larger than peas, or small beans, or marbles. The peribronchial glands draining these areas, on the other hand, are quite large and bear the brunt of the infection. Through this infection the hypersensibility of the body cells is produced, and then when bacilli are carried from these glands to other parts of the body, whether it be the lung, joint or bone, there is at once a tendency to limit the infection. These metastases usually occur through the blood, and are produced, as a rule, by few bacilli. Escaping into the blood, the bacilli are diluted and for the most part destroyed. Those which are strained out in the small capillaries to produce a local infection, are probably reduced in virulence; and when they come in contact with the action of the sensitized cells their virulence is further limited so that the lesion which results is either abortive in character or a non-virulent one. This primary metastasis, as a rule, is quiescent for some time before it produces active symptoms; but from it, eventually, other metastases occur. Even though it may be larger than the primary focus in the lung, described by Ghon, it is not followed by marked enlargement of the regional lymph glands. We notice the same freedom from infection of the lymph glands in secondary metastases in the larynx and intestinal tract. Applying this principle of local hypersensitiveness and its effect on attempted inoculation to our study of infection, it offers a key to the determination of the primary focus and the secondary metastasis.

Why the Apex of the Lung is Involved in the Adult, While Any Portion May Be Involved in the Child. In discussing this question the very fact that infections in childhood are more apt to be non-pulmonary than pulmonary, while infections in adult life are more commonly pulmon-

ary, and not only pulmonary, but begin at the apex of the lung, leads to the natural inquiry as to what difference exists in the conditions which surround infection in child life and those which surround it in adult life. The involvements of the lung, bone, joint, meninges, or other structures than the glands, must be looked upon for the most part as metastases, which take place through the blood, although it is possible that bacilli might be taken in through the mucous membranes, particularly those of the intestinal tract, and be carried through the thoracic duct and poured directly into the blood stream, to be strained out in any of these parts, without a primary focus occurring in the lymphatic glands. Such bacilli would go through the lung first, and in case they should escape lodgment in the pulmonary capillaries, might go on and produce infection in some portion of the systemic circulation; but statistics show that bacilli in the child are less prone to find lodgment in the capillaries of the lung than they are in other portions of the body. The fact that predisposition to pulmonary involvement does not exist in the child, therefore, leads us to the inquiry, is there any anatomic or physiologic difference between the lung in child life and adult life which would make it, particularly the apex, more prone to involvement than any other portion of the body? In answer to this question there are very important changes which take place and which seem to be fully capable of making this difference in localization. These are the changes which come about in the shape of the thorax and the growth of the lung as the child increases in years.

At birth the jugulum is on the level with the last cervical vertebra, but after the child has assumed an erect position for a time, the anterior wall of the chest drops. This proceeds rapidly, so that by the time the child is six or eight years of age the anterior portion of the first rib is on a level with the third dorsal vertebra. In this sinking of the anterior portion of the chest the apices of the lungs are crowded together at a time when the lungs as a whole are increasing in size. Consequently the respiratory motion is relatively lessened, and this favors retardation of the blood and lymph flow in the apices of the lungs, and in this way favors the implantation of tubercle bacilli at this point. This disposition is particularly exaggerated at puberty when the lung takes on an enormous increase in growth, doubling in size within the space of one or two years. The upper portion of the chest being flattened, this increase in growth is reflected in a relatively greater apical compression. As arguments in favor of this being a factor, I would like to call attention to the further fact that the primary metastases rarely occur in the base of the lung, where the motion is not retarded; and I would further call attention to the fact that the same localization of carbon takes place in the lungs as of bacilli. While in the child the pulmonary tissue itself is comparatively free, the peri-bronchial glands and sub-pleural spaces being filled, in the adult the pulmonary tissue itself, particularly in the apices, is studded with carbon, while the pulmonary tissue in the lower lobes is comparatively free.

A Physiological Suggestion for the Cause of the Small Heart. The small heart in tuberculosis has been the subject of a great deal of discussion from the time tuberculosis first assumed clinical importance. Benecke, Rokatansky, and others observed post mortem that the heart was often small in tuberculates, smaller than in other individuals. Brehmer, being convinced by their observations, decided that tuberculosis was due to the inability of the small heart to nourish properly the lung, and consequently founded a therapy on the principle of improving the functional capacity of the heart. When he established his sanatorium at Goebersdorf he built it at the bottom of a hill, and laid the grounds out in paths representing certain definite grades; and each patient, according to the functional capacity of his heart, was assigned a certain amount of hill climbing to do. This was guarded most carefully by Brehmer, and a systematic therapy based upon exercise, was established.

The fact that the heart in tuberculosis is small has been substantiated later by clinicians and particularly by the orthodiagraph. The important fact has been brought out that not only is the heart small in late tuberculosis, where it might be due to general malnutrition and degeneration of tissues, but also in early tuberculosis, where the tissues have not yet suffered degeneration. In this connection, the small heart is found in persons of normal build as well as those of enteroptotic build. Further observation brings out the important fact that there are other conditions in which the small heart is found. It is found in the individual of the enteroptotic build. If we compare the enteroptotic individual and the tuberculous, particularly one suffering from early tuberculosis, we find one condition in common which produces changes in the cardio-vascular system. A striking feature is common in the deficiency in the inspiratory act. In both of these types of individuals we have a deficiency in the action of the diaphragm. In the tuberculous, not only the diaphragm, but other muscles of respiration are limited in action Wenckebach[1] has described this very fully on the part of the patient suffering from enteroptosis. The writer[2] has called attention in numerous papers to the effect of a deficient inspiratory act upon the tuberculous individual.

The maintaining of the normal circulation of the blood depends primarily on the action of the heart itself and the condition of the blood vessels, but secondarily, the circulation is greatly facilitated by the inspiratory act. The inspiratory act opens up the chest cavity, increases the negative pressure in the large veins and heart chambers, and in this way sucks the blood into the right heart. This action at the same time re-

lieves the systemic veins. When there is any deficiency in the inspiratory act, as we find consequent upon a deficient action of the diaphragm in enteroptosis and because of the reflex disturbance on the part of the diaphragm, as well as other respiratory muscles in tuberculosis, we have a lessening of the suction action on the circulation and a reduction in the amount of blood delivered to the heart, consequently a reduced amount of blood in the heart and a reduction in the output of the ventricle. The condition which produces this change being constant in tuberculosis, the heart is obliged to accommodate itself to a lessened content and a lessened output, and as a result of this it becomes smaller in size.[3]

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ACUTE OTITIS MEDIA IN INFANCY AND EARLY CHILDHOOD: AVOIDABLE MISTAKES IN DIAGNOSIS, PREVENTION, TREATMENT.*

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ACUTE otitis media is, I believe, the most frequently overlooked affection of infancy and childhood. Not only is it not correctly diagnosed by the profession as a whole, but it is also sometimes overlooked by the pediatrician, and in infancy its significance is often underrated by the aurist himself. The prevalence of this disease is due to the relative increase in frequency of nasopharyngeal affections in early childhood, and the readiness with which the necessary sinuses are blocked, which, in the case of the Eustachian tube, leads to the formation of a closed cavity in the middle ear with consequent infection and abscess formation. It is difficult to realize that earache is not localized in infancy. In childhood also, where otitis media occurs as a complication, this symptom is obscured by the general toxemia. The symptoms of acute otitis media may be those of pneumonia, of meningitis, abdominal or simply an intensification of symptoms due to the disease which the otitis complicates. As this disease so frequently leads to involvement of the mastoid cells, to edema of the brain, or to the entrance of bacteria into the general circulation, failure to make an early diagnosis may be fatal. An appreciation of the significance of this affection should lead to the taking of proper steps to remove causes that may seriously affect the hearing, the development and the future health of the child. The following cases illustrate the more common sources of errors in diagnosis.

* Read before the meeting of the New England Pediatric Society, April 30, 1915.

CASE 1. Alice D., age two years, previously well, began to be feverish and vomited on the morning of December 13. She put her hand to her right side saying "hurt". Her bowels had not moved for two days. She had a history of digestive upset the previous summer and Thanksgiving. At five o'clock in the afternoon her temperature had increased to 104 and she had a convulsion. Her attending physician made a diagnosis of an inflammatory process in the abdomen and considered an exploratory operation.

She was seen in consultation at 6 P.M. Her physical examination was negative except for signs of adenoid tissue in her throat, and the presence of marked abdominal tenderness. An examination of the right ear showed slight congestion along the handle of the malleus. The ear was opened by Dr. Frederick Jack. The patient almost immediately fell asleep. Next morning the temperature was 100. At two o'clock it was 102.6 and at six o'clock 105 and the patient had another convulsion. An examination of the other ear showed a condition of the drum similar to that of the first. The second ear was opened by Dr. F. P. Emerson. The next morning the temperature was normal and remained so. There were no further symptoms except for a slight discharge which continued for 48 hours.

CASE 2. Stephen G., age three years, was brought into the out-patient department of the Boston Dispensary. His temperature was 104, his mental condition clouded. He had general tenderness of the muscles, retraction of the head. Kernig's sign was present. In the chest there were signs of bronchitis. A diagnosis of early meningitis was made in spite of the withdrawal of 20 c.c. of clear fluid by lumbar puncture and a normal cell count. A consultation in the out-patient department was held and a second diagnosis of broncho-pneumonia with cerebral symptoms made. He was admitted to the writer's service in the hospital where the ears were examined for the first time. Both drums showed very slight congestion along the handle of the mallei. A double paracentesis was done by Dr. Edward R. Newton, and a drop or two of pus was found in each ear. Next morning the temperature was 100. The cerebral symptoms had disappeared. The temperature gradually returned to normal, the bronchitis cleared up in eight days, and the patient was discharged with a diagnosis of acute bronchitis complicated by a double otitis media.

CASE 3. Edward H., age two years, eight months, had been sick ten days with measles. On Thursday he was doing well. On Friday he began to manifest signs of abdominal pain, which seemed to be paroxysmal. Hot fomentations were applied to the abdomen for most of the night with no relief. The next day the ear drums showed very slight congestion in the upper quadrant, so slight as to make a diagnosis of an inflammatory process uncertain. On the fourth day his condition grew worse, accordingly a free incision was made in each drum by Dr. F. P. Emerson and a drop of pus seen in each ear. Eight hours later the child showed some improvement. The paroxysmal pain disappeared and in 24 hours the patient was comfortable. During this time the temperature varied from 101 to 102.5 and showed no

rise with the exacerbation of symptoms. The ears discharged moderately for two weeks when the patient had apparently recovered from the otitis.

However, the prostration was so great that the child was not able to speak for five weeks. On recovery from his sickness it was found that his speech and mental development were put back practically a year. It seems reasonable to believe that the dangerous character of this illness was due to the otitis rather than to the measles.

Cases 4 and 5. Catherine D., age three years, nine months, had had a cold for a week with slight cough. She became feverish and restless. Her temperature was found to be 102.2. Her physician made a diagnosis of slight bronchitis. The mother asked the physician to examine the ears, which he did not do, but tested them with a watch, pronouncing them all right. The next day the ear drum ruptured and was followed by a profuse purulent discharge which continued for eight days, the patient's temperature ranging from 99 to 101. On the eighth day the other ear was examined only as a matter of routine but found bulging. It was opened under ether by Dr. Harold Walker and at the same time a wider opening was made in the first ear. The temperature the next morning was normal and remained so aside from rising one degree each afternoon. Both ears discharged profusely for about two weeks.

During this time a sister, Beatrice, aged twenty months, was convalescing from broncho-pneumonia. After two weeks of normal temperature she suddenly showed restlessness, the temperature rose to 103.5. The left ear drum showed very slight congestion in the upper quadrant. Measures were adopted to open the Eustachian tube without success. Four hours later the temperature had risen to 104.2 respiration 52. The ear drum was opened by a curved incision, a slight bloody discharge followed. No pus seen. The next morning the temperature was 99, all symptoms disappeared. There was a slight serous discharge for two days and no further symptoms.

Although these cases are selected simply to represent the most common types of aural complication, the following points are of interest: In none of the five cases were there symptoms of earache. In two cases the symptoms were all abdominal, in one meningeal, and in two general, associated with fever. In all of these cases the diagnosis of acute otitis media was made by routine examination of the ear drums, not by localized pain or tenderness. In three cases where the drums were opened promptly with the onset of the symptoms, without waiting for bulging or pus, the symptoms subsided in 24 hours, the discharge in 48 hours, and the duration of the affection was only three days. When there was delay in opening the drum because of failure to correctly diagnose the otitis, a profuse purulent discharge continued for more than two weeks, prostration was extreme, and the ear drums showed considerable resulting injury. Four of the five cases had a double otitis.

From such histories as these it seems fair to conclude that if the attending physician does not examine the ear, in the great majority of cases the diagnosis of otitis media will not be made. This conclusion is further substantiated by statistics given in 1912 by Dr. C. R. C. Borden based upon the careful study of the clinical records of over 2000 cases of scarlet fever, measles and diphtheria at the Boston City Hospital, and upon the pathological records of 252 autopsies performed by Drs. Councilman, Mallory and Pearce.

		Per Cent.
Clinical diagnosis of otitis media in	scarlet fever	11
Pathological " " " " "	" "	94
Clinical " " " " "	measles	28
Pathological " " " " "	"	100
Clinical " " " " "	diphtheria	2.9
Pathological " " " " "	"	82

In other words in over 2000 cases of these diseases otitis media was clinically diagnosed in less than 15%, but in 252 fatal cases otitis media was found present in 92%. There was also found in the 252 autopsy cases, 59 cases of mastoiditis, of which only 6 or 8 were recognized during life, and with but one exception one side was operated on when both were affected. Eighty per cent. of these cases of mastoiditis showed edema of the brain, but the reports also showed that a large number of the affected middle ears had edema of the brain even when there was no mastoiditis. This report reveals an extraordinary situation that has not received sufficient attention. The difference between the clinical and pathological diagnosis is to be explained, I believe, by one reason, namely that the ears were not frequently examined.

This report shows clearly that an examination of the ear drums on admission to the hospital or at the physician's first visit, and additional examinations made only when there are symptoms of otitis, is not sufficient.

In infectious diseases and in all diseases of the respiratory tract the ears should be examined at every visit of the physician to his patient, with as much reason as he would examine the heart in rheumatism or the abdomen in typhoid fever.

Why is this not done?

Perhaps the most important reasons are the discomfort caused the patient by the use of the head mirror and speculum, the special training required for their use, and the difficulty in seeing the drum in infancy and early childhood.

There are now on the market electric ear instruments that have a light inside the speculum that illuminates the whole drum so that it is possible for even an untrained person to get a clear picture without disturbing or alarming the child. With the patient in bed both ears can be examined from the same side with only a quarter turn of the patient's head. One opening in the speculum has a small magnifying glass that is of service in seeing the drum, and in case of paracentesis the point of the knife may be placed through a second opening and inserted into the drum under direct observation and the incision

directed as necessary. The light is so near the drum that small particles of cerumen or even a discharge in the canal do not seriously interfere with vision. With these instruments both ears can be quickly inspected without disturbing a sick patient, and abnormal conditions can be detected that are easily overlooked with a poor light or even with a good light but one that differs from that to which the examiner is accustomed. These advantages, immaterial in examining the ear drums of older children, may be vital in the case of infants whose canal is so small as to make a thorough examination with head mirror and speculum difficult, and frequently impossible.

PREVENTION.

In all primary infections of the respiratory tract and especially in affections of the respiratory tract secondary to contagious diseases care should be exercised to keep the nasopharynx free from mucous and crusts that may cause occlusion of the Eustachian tube. Two or three drops of liquid albolene or of a 10% solution of argyrol may be introduced into each nostril three times a day. During the stage of acute nasal congestion steam inhalations are helpful. An even temperature should be maintained in the room. The child should be protected from strong winds and dust. The air in overheated houses and flats becomes exceedingly dry and consequently irritating. Receptacles for water attached to the side or placed on top of radiators will evaporate one to two gallons daily, appreciably increasing the humidity. In older children the use of the following ointment:

℞

Menthol	gr. vii
Eucalyptol	grs. vii
Lanolin	ʒ vi
Vaseline	ʒ ii

applied inside the nostril protects the congested turbinates and so keeps the nares clear. Also in older children in case of excessive discharge from the throat, irrigations of hot normal salt solution two or three times a day frees the nasopharynx from muco-pus. The irrigation may be done by the physician with a metal syringe or by the nurse with a fountain syringe, inserting the glass part of a curved eye dropper into the end of the rubber tube and so directing the stream into the throat and allowing it to flow out into a pus basin with the patient lying in bed. A spray of menthol, 5 grains, and benzoinal, 1 ounce, should be used with an atomizer to protect the inflamed mucous membrane from irritation. Swabbing the throat with iodine, 20 minims, to the ounce of glycerine, is also useful. When such measures are taken there is less cough and, therefore, less danger of forcing bacteria into the Eustachian tube.

TREATMENT.

If, notwithstanding these precautions, the Eustachian tube becomes occluded and the drum membrane begins to show congestion along the handle of the malleus, the following treatment should be given to open the tube: a mixture of four drops of adrenalin solution, 1 to 5000, and cocain one-half of 1%, should be allowed to flow through the nostril on the affected side, back into the throat, the patient's head being tipped backward in such position as to cause the solution to flow towards the orifice of the tube. This should be followed in five minutes with a few drops of a 20% argyrol solution, which by its higher specific gravity keeps the tube open. This should be repeated in three hours if there is pain. Frequently the symptoms, congestion and temperature, will disappear with this treatment. If, however, the inflammatory process continues to progress and the symptoms increase, the drum should be incised without waiting for bulging or pus. The operation should be performed by the aurist, if available, otherwise by the attending physician, because the majority of these cases have a mixed infection and a delay of even a few hours may result in rupture of the drum and burrowing of pus into adjacent structures. The attending physician can safely make a curved incision of the drum, extending from the posterior lower quadrant up to the attic under direct vision, using the ear instrument previously described. A rapid fall in temperature and alleviation of symptoms should follow. Repeated incisions should be made, if necessary, for free drainage, but it should be remembered that obstruction of the Eustachian tube in the throat may prolong a discharge from the ear. In infants etherization is not necessary, but in older children enough ether should be given to allow time for a careful and accurate incision. The other ear should be watched with special care as a double otitis is frequent.

CONCLUSIONS.

In every case of contagious disease and of affections of the respiratory tract in children, measures should be inaugurated at once to keep the nasopharynx clear and so maintain drainage through the Eustachian tube. In such cases the ear drum should be inspected at every visit of the physician to his patient.

An electric ear instrument gives a clear picture of the drum with a minimum disturbance of the child.

In cases of otitis media when the symptoms and the local condition do not improve under treatment the drum should be incised by the aurist, if available, otherwise by the attending physician, without waiting for bulging or pus.

Every child, after an attack of acute otitis media, should have his epipharynx examined and treated by a specialist trained to recognize the close relation of the nasopharynx to the ear.

CAN THE SPEECH PRESENT A SIGN OF CONGENITAL SYPHILIS?*

First Note, Three Cases.

By Walter B. Swift, M.D., Boston,

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I make no apology for presenting a paper before a scientific society in the form of an interrogation rather than in the usual form of a positive statement. My reason for doing so is threefold: First, I lack the clinical material to carry the investigation on to the final stages; secondly, I wish to inspire others to undertake the observations themselves; and, thirdly, I may possibly be able by this form of presentation to divert a few cases to my own clinic for investigation.

Several of the many varied symptoms of congenital syphilis show certain definite characteristics. One of these is "Hutchinson's teeth." This sign of congenital syphilis is one that we usually expect. It is a failure in complete bone development; that is, it is the result of a nutritional lack which stops the final outgrowth of bone. This symptom itself is usually looked upon as strongly indicative of the syphilitic lesion. It is not pathognomonic.

Most of us have heard of the malnutrition of bone and regard that also as another strong indication. This symptom, which is known as scaphoid scapula and which has been presented by Graves[1] of St. Louis, is another lack of bone growth that may be caused by syphilis in its congenital form. Graves acknowledges that this symptom is not one which is pathognomonic of the lesion in question, yet it nevertheless can be caused by it. He therefore would base a diagnosis upon the existence of other signs of the same kind; and when this one is present with the others, he considers that it, too, has been caused by the syphilitic infection.

"Hutchinson's teeth" are found by simple observation. The scaphoid scapula is determined by palpation or through the employment of an x-ray. Any sign that the voice may present is naturally detected by the way the voice sounds to the ear. Thus if there is any sign in congenital syphilis that appears in the voice, it will naturally be one that without further examination can be detected acoustically. Inspection of the vocal cords should follow.

Several interesting cases which have come under the observation of the Voice Clinic at the Psychopathic Hospital have led me to ask my question. The chief of these is the appearance of three congenital syphilitic cases with voices of similar nature. Those cases I should like to present in very brief form:

Case 1. E. W., girl, 10, Russian, school grade 6. Complaint: hoarseness.

P. I. Voice has never been clear. For the last year considerably worse. Very hoarse when crying.

P. H. At 8 months, diphtheria; at three years, measles. Nose once broken. One year ago tonsils and adenoids removed. Promised voice cure that never materialized.

F. H. Father and mother living and well.

P. E. Negative except for scaphoid scapulae and deeply notched upper incisors (Hutchinson teeth). No tibial extoses. *Wassermann positive.*

Vocal Examination: Vocal elements all normal except S, which shows slight right lateral stigmatism. Vocal tone is in general very monotonous and on a pretty constant low pitch. On attempt to sing the scale beginning at C′ (256) the last two or three notes are hard to execute, ill-sustained, and often break. Voice tires quickly, especially upon high notes. Had a peculiar "tinpanny" cry when a baby.

Case 2. S. B., boy 10, school, Russian.

P. I. Complaint: Lisps and talks in a whisper. Began to talk by lisping; and by saying his words in a whisper. Now converses in a rough, rasping, harsh voice. Used also to stutter, but now shows no sign of it.

Vocal Examination: Fricatives and explosives all normal. No stutter. Every utterance accompanied by a vocal cord rasp, giving a certain uniform hoarseness. Whisper is clear in all forms of enunciation. Edges of both vocal cords are thick, white and hardened. Right vocal cord markedly bowed outward. That is, the finer edges are absent.

P. H. Four-five, measles; nine, adenoids and tonsils.

F. H. Immediate family negative. A cousin "insane."

Case 3. C. N. Scaphoid scapulae.

Hoarse since birth. Father same.

Heart misses a beat in every four. Otherwise negative.

Wassermann positive.

In these three cases congenital syphilis was our diagnosis.

All these cases presented a certain type of voice which has the following characteristics:

Syphilitic Type of Voice.

The characteristics that were noticeable were a harsh, squeaking, monotonous tone, noticeably intense, a considerable tenseness of the vocal organs, absolutely no flexibility and little or no change in pitch. Besides these things, after treatment though long-applied, persistent vocal drill, only slight changes, if any, resulted.

The failure of any treatment and the consequent impossibility of adding any flexibility to such a voice naturally gave rise to the conclusion that the organs of production were permanently changed. The evidence further showed that the change was not only permanent but marked. It was such that the vocal cords could be used in only one way; and this without any possibility of development, variation, or learning ability—a functional incapacity.

Beyond showing the permanency of this change, the vocal sounds indicated the kind of change, as well. It was monotony of voice, or, in

* Read April 30, 1915, before the New England Pediatric Society.

other words, a lack of flexibility. This logically indicated that the edges of the vocal cords were immovable, rounded and hardened. For this reason minute vibrations could not occur, and a change of pitch was out of the question. Consequently a variation in tone that would otherwise be flexible was also impossible.

From the character of the sound, then, and from the monotony of it we are able to infer that the change is permanent; and that it was either a thickening or hardening of the edges of the vocal cords, or, better, a lack of development in the edges of those vocal cords. Inspection confirmed this diagnosis.

I have been unable to photograph any of these cases so as to show you how the vocal cords are hardened, but I think we may come to some tentative conclusion even without that evidence. My question, then, is this: If we can have a syphilitic infection that results in the non-development of a certain area of the two upper frontal incisors; and if in the same manner we can have a lack of bone development in the scapulae that can result in a marked deformity, and a deformity so marked that it can be dignified with the new name, scaphoid scapulae; why can we not likewise have such a mal-formation of the cartilages of the vocal cords that those cartilages will be unable to function in their finer forms and can merely externalize voice as a harsh, rasping, monotonous tone?

He who meets continually the individual cases often has a chance to see conclusions that others can not draw from the words. I feel that I am in that situation, yet I do not feel that the conclusion which I draw is as final as more evidence in further investigation will be able to make it. I should remind you that perusal of the literature reveals no description of this sign.

CONCLUSION.

I conclude from these three cases that there is a voice sign in congenital syphilis which manifests itself in a harsh, rasping, monotonous, low-pitched voice that is at most only slightly, and usually not at all, amenable to any sort of treatment. I bring the question up as a point of discussion to be taken up by you and threshed out in still better form. I trust either that my question will elicit markedly destructive data to settle the query in one way; or that the discussion will present fuller and clearer evidence than I have been able to find, and that corroborative criticism may more completely establish my conclusion. My answer to the original question is positive.

SUMMARY.

Congenital syphilis can cause a faulty or incomplete development of vocal cords that results in vocal monotony and harshness in both conversation and weeping. As spirochaetosis has been of late offered[2] to cover all the lesions of syphilis. I propose as a name for this sign *scaphoid vocal cords and spirochaetotic harshness.*

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[2] Swift, Walter B.: Transactions of the American Medico-Psychological Association, Vol. 21, 1914, p. 214.

Clinical Department.

AN UNUSUAL CASE OF OBSTRUCTING PROSTATE DIAGNOSTICATED WITH DIFFICULTY FROM TABES.

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AND

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IN the belief that we learn by our mistakes, and that the ultimate solution of any difficult problem in differential diagnosis may be of benefit, not only to the individual physician, but to the profession in general, we wish to present the following case:

CLINICAL SUMMARY:

A. M., a man of 42 years, had been absolutely well, with the exception of one attack of gonorrhea in youth, until six months previous to December, 1914. He then began to have difficulty and increasing frequency of micturition with incontinence at night. No retention. Had passed no blood or gravel. There had been no pain, but a sense of burning at the beginning of micturition. Had also had considerable dull pain in the lumbar region, especially on the right, but no symptoms especially referable to the kidney. No nausea or vomiting.

He had lost 25 pounds weight in the six months. For four months his sexual power had been decreasing and of late there has been none at all.

Further inquiry found no symptoms referable to the nervous system, especially important in connection with a possible diagnosis of tabes, though the patient admitted transient diplopia a number of years ago. He denied syphilis, though his wife had had five "accidental" miscarriages since the birth of two healthy children.

Physical Examination. A pale, emaciated man. Looks weak and sick. Superficial arteries not thickened. Blood-pressure 130 m.m. systolic, 75 m.m. diastolic. Tongue moist, slightly coated. Lungs negative. Heart shows systolic and diastolic murmurs over the aortic area, presumably originating from the aortic valve; the pulse suggesting the Corrigan type. No evidence of a dilated arch. Abdominal examination negative, except that urinary bladder is greatly distended. External genitals negative.

Patient passed about five ounces of cloudy urine

and felt "as if he had more to pass." Urine acid, would not filter clear, very slight trace of albumin, no sugar. Sediment showed much pus, few epithelial cells, many motile bacilli. No blood, casts or crystals seen. Calibration of the urethra showed no stricture. A soft rubber catheter passed easily to the bladder, withdrawing (on several occasions) 18-20 ounces residual urine. *The prostate by rectum was normal in size and consistency.* The seminal vesicles were considerably distended, but not indurated.

With no evidence of stricture of the urethra, or of prostatic obstruction, a cystoscopy was done (J. D. B.). This was easily performed under local anesthesia (alypin). There was no pain or intolerance. The bladder was generally reddened, but the mucosa was smooth, and not edematous, or ulcerated. The bladder wall throughout was markedly trabeculated, a characteristic of obstruction, not only of mechanical, but of nervous origin.* The ureters looked normal. A No. 6 flute-tipped catheter passed easily to each renal pelvis, there being a good flow, in normal ureteric rhythm, of clear urine from each side. *No enlargement of the prostate could be made out.* High up on the right wall there was seen a round opening, the size of a dime, like that of a diverticulum, but a ureteral catheter would enter for only about half an inch.

While the diagnosis was still in doubt there was some evidence of the presence of a diverticulum (which might well have occasioned the bladder symptoms) a possibility borne out by the fact than when the bladder was filled there was an indefinite, rounded, tender mass to be felt deep in the right iliac fossa.

X-ray of the bladder, distended with air, showed it to be conical in shape, with the apex drawn well over to the right side, undoubtedly giving rise to the findings already described.

In view of the obscure nature of the case, and the absence of any demonstrable mechanical obstruction, a careful examination of the patient's nervous system was made (J. B. A.). There was no abnormality of reflexes, although the pupils were both irregular, but equal, reacting fairly well to light, better to accommodation. No disturbance of sensation, superficial or deep. No Romberg or difficulty in gait. No palsies. Laboratory tests were performed with the following results.

Blood. Wassermann, negative (even with cholesterin reinforced antigen). A Wassermann test done later on the wife's blood was also negative.

Stained Smear. Normal.

Spinal Fluid. Pressure 210 m.m. (aq.); cells one per cmm.

Proteids not increased.

Gold Solution. "Suspicious of syphilis." (Report of laboratory at Massachusetts General Hospital.)

The diagnosis, therefore, lay between an early and obscure affection of the central nervous system, and a diverticulum of the bladder, but there was no adequate basis for either diagnosis. The possibility of an obstructing prostate was practically disregarded. As there was little or no change in the ability of the patient to empty his bladder, even after several days in bed and with frequent catheterization, operation was decided upon. This decision was reached only after careful deliberation, and the tentative conclusion that syphilis of the central nervous system could be excluded. The daily amount of urine was well over 50 ounces.

Operation. (J. D. B.) Spinal anesthesia with tropococain 1.5 c.c., a little ether being given to offset the extreme mental excitement. Suprapubic cystotomy. Bladder opened without difficulty. Careful exploration showed no diverticulum, the aperture on the right wall of the bladder seen with the cystoscope being only a saucer-like depression. Bladder wall much thickened and trabeculated throughout. Median lobe of prostate found to be the size of the first joint of a man's thumb, overhanging the urethral orifice, and acting like a ball-valve. This was enucleated without difficulty, and no other masses of adenomatous tissue were found. The bladder was closed tightly around a large, soft rubber tube, a small rubber tissue wick was placed to the prevesical space, and the abdominal incision was closed in layers.

Microscopic examination of the enucleated specimen showed simple adenoma.

Convalescence was uneventful. The patient has recently been seen by one of us (J. D. B.) on two or three occasions, six months after operation. He has gained 15 or 20 pounds and is in good general condition. His appearance is that of perfect health. The condition of the sex function is unchanged. Urination is painless and free, occurring only four or five times a day. There is no nocturia. The urine is practically clear, and there is no residual whatever.

SUMMARY AND DISCUSSION OF DIAGNOSIS.

A man of 42 presents a progressive motor disability of his bladder, coupled with loss of weight and sexual power, of six months' duration. Local examination fails to reveal an adequate cause. The negative examination for bladder obstruction, the finding of a trabeculated bladder mucosa, the associated loss of sexual power, irregular pupils, reacting poorly to light, evidence of disease at the aortic valve, combined with the history of five miscarriages in the wife, make strong evidence for the diagnosis of syphilis and of spinal cord disease. On the other hand examination of the nervous system fails to show any supporting evidence in favor of the latter, and tests are found negative for active syphilis (the "suspicious of syphilis" report from the "gold test" is not to be taken too seriously at the present state of our knowledge of this test).

While it is our conviction that bladder retention may be the first and for some time the only clinical symptom of tabes, as already pointed out by one of us (J. D. B., *loc. cit.*), it is also our experience and belief that progressive bladder retention is probably never the sole manifestation of this disease. One or the other of the newer laboratory tests will reveal the true nature of the case. Therefore, in view of the negative findings in the nervous system, but more especially on account of negative findings in the spinal fluid, tabes was excluded and operation advised.

This case is cited in full on account of the diagnostic maze through which the true diag-

* Barney: BOSTON MED. AND SURG. JOUR., Vol. clxiii, No. 25, pp. 933-937.

nosis emerged and was forced upon us, largely on account of reliance upon the newer laboratory tests. While it is hard to understand how a lobe of the prostate, as large as the one removed from this patient, could escape detection by the cystoscope, such an experience is not unique. One of us (J. D. B.) has since had a similar case in which the enlarged median lobe was demonstrated only after repeated observation with the cystoscope. The soft, pedunculated lobe, hanging over the urethral orifice, like a cherry on its stem, may be flattened down by the cystoscope in such a way as to escape observation.

REPORT OF AN INTERESTING STOMACH CASE.

BY FRANK E. LEWIS, M.D., NEWTON, MASS.,

AND

RALPH D. LEONARD, M.D., BOSTON.

THIS case is reported not alone for its surgical aspect but also for the fact that it shows the inestimable value of the x-ray in the diagnosis of obscure cases of stomach conditions.

Marg. C. was seen October 3, 1914. At this time she gave the following history: Single, 39 years of age. Vocation, domestic.

F. H. Negative. No history of cancer or tuberculosis.

P. H. No serious illness until 1904 when patient had typhoid fever followed by pneumonia.

P. E. Patient slight of stature, anemic and markedly emaciated. Weight, 90 pounds. Pupils react to light and distance. Fundi normal. Teeth in fair condition. Breath very foul. Mucous membrane pale. No glandular enlargement. Lungs resonant throughout. Heart sounds clear and regular. Level of the abdomen below that of the thorax. Slight tenderness and resistance in the epigastric region. No masses felt. Vaginal examination negative. Reflexes normal. No edema of the extremities.

P. I. Present condition dates back to 1905 when patient first began to be markedly constipated. This condition was accompanied by occasional vomiting. In the fall of 1906 patient had a typical epileptic convulsion during which patient vomited a large amount of material with an offensive odor. Since 1906 these attacks have occurred on an average of twice a month. The vomiting which at first was only occasional became a more pronounced feature until finally the patient was vomiting regularly 30 to 40 minutes after each meal (Aug., 1914). The only pain noted was a slight burning sensation that came on just before vomiting. Patient said she noticed that the stools had been dark in color during the last few months. Never noticed whether there had been any blood in the vomitus. Appetite has been getting poor and patient has lost a great deal of weight.

Urinalysis. Sp. Gr. 1020, no albumen, no sugar, acid in reaction, marked indicanuria. Blood examination showed a secondary anemia. Positive Guaiac test obtained from the stools and vomitus. Stomach contents showed a slight increase in hydrochloric acid and a small amount of stasis. Wassermann negative.

Patient was advised to have x-ray examination of the gastro-intestinal tract. Following is the report of the röntgenologist:

REPORT OF THE RÖNTGEN EXAMINATION MADE OF MISS C.

Esophagus. Appears normal in all respects. There is no "hesitation" at the cardia.

Stomach. Under the fluoroscopic screen, there is seen on the lesser curvature, mid-way between pylorus and cardia, an area of "rigidity" about an inch and a half long. Normal peristaltic waves do not affect the outline of this area nor can the area be moved by palpation. Opposite, on the greater curvature is a permanent incisura, producing a typical hour-glass stomach. There is no marked gastric stasis.

Roentgen Picture.
Showing:
(1) High gastric ulcer.
(2) Duodenal ulcer with perforation.

Duodenum. On the upper and inner edge of the first portion of the duodenum is a small diverticulum about one-half inch in diameter. The isthmus forming the neck of the diverticulum and opening into the duodenal "cap" is about three-quarters of an inch in length with a diameter of a thread. Opposite on the outer and inferior edge of the "cap" we find a small permanent incisura.

Small Intestine. Shows nothing abnormal save that the upper coils of jejunum overlie the antrum of the stomach and the first portion of the duodenum. These coils are fixed in this position.

Colon. Shows nothing abnormal except moderate ptosis.

Diagnosis. Chronic gastric ulcer on lesser curvature with hour-glass stomach. Chronic perforated duodenal ulcer with adhesions tying down some of the jejunum.

The diagnosis having been made, the patient was advised to have an operation, to which she consented.

Patient entered the hospital Oct. 14, 1914, one week before operation. The bowels were thoroughly

cleaned out with daily enemata and catharsis. The stomach was washed daily with boric solution. Intravenous saline was administered the day before operation.

Operation Oct. 20, 1914, Fred B. Lund, M.D., and Frank E. Lewis, M.D.

Abdomen was opened by a high, left median incision. Contrary to expectation, the stomach was found to be fairly movable. There were many dense adhesions on the posterior part of the stomach which were not freed. The stomach itself was of the textbook "hour-glass" type, the isthmus between the cardiac and pyloric portions being very narrow. On the lesser curvature was a hard, rigid area, evidently a healed ulcer. Opposite to this on the greater curvature was a deep incisura. The pylorus was soft and patent, two cm. from the pylorus on the duodenum was a mass of adhesions, evidently the place mentioned in the x-ray report. The appendix was normal. A posterior gastro-enterostomy was performed between the cardiac pouch of the stomach and the upper part of the jejunum. The constriction between the pouches of the stomach was relieved by a plastic operation which included the excision of the ulcerated area. In this last step vigorous hemorrhage was encountered and the patient's condition became alarming. The stomach was washed out thoroughly with saline and the abdominal wound closed. Profound shock followed the operation for the first twenty-four hours. After this, however, the convalescence was uneventful.

RESULTS.

Since the operation the patient has had no vomiting and the epileptic fits, which were such a prominent feature, have entirely disappeared (May, 1915). One of the best features is the relief from constipation. The patient's weight which was 90 pounds at the time of operation is now 114 pounds.

Reports of Societies.

NEW ENGLAND PEDIATRIC SOCIETY.

MEETING OF APRIL 30, 1915, WAS HELD AT THE BOSTON MEDICAL LIBRARY.

The President DR. E. M. BUCKINGHAM of Boston, in the Chair.

The following papers were read:

I. CAN THE SPEECH PRESENT A SIGN OF CONGENITAL SYPHILIS?[1]

W. B. SWIFT, M.D., Boston.

II. ACUTE OTITIS MEDIA IN CHILDHOOD; AVOIDABLE MISTAKES IN DIAGNOSIS, PREVENTION, TREATMENT.[2]

W. R. P. EMERSON, M. D., Boston.

III. STUDIES IN BRONCHIAL GLANDS.

W. W. HOWELL, M. D., Boston.

IV. ENDOCARDITIS IN CHILDREN; ITS PROPHYLAXIS AND TREATMENT IN AN OUT-PATIENT DEPARTMENT.[3]

R. S. EUSTIS, M. D., Boston.

[1] See JOURNAL, page 619.
[2] See JOURNAL, page 616.
[3] See JOURNAL, Vol. Clxxiii, No. 10, September 2, 1915.

DISCUSSION.

DR. W. P. COUES: Among the symptoms which Dr. Swift did not mention and which one sees from time to time are the large, soft, dilated veins on the abdomen and chest; another is the saw-line of the epiphyses, both of which are not absolutely diagnostic, but very suggestive. I think that Dr. Swift's paper brings up also the question of third generation syphilis which most American syphilographers do not admit, or at least admit very guardedly as being possible. To those who are skeptical on this subject, the perusal of Fournier's recent book, 1912, "Late Hereditary Syphilis of the Second Generation," will be a revelation.

I was very much interested to see that the Wassermann in this case was doubtful, as we have had in our clinic several cases of the same sort. Some cases have shown gumma of the glands of the neck, and this is a point which we do not always think of.

Question: May I ask if the hoarseness is permanent and does not change?

DR. SWIFT: Yes.

DR. WALTER B. SWIFT (closing): I am glad so many have taken interest enough to discuss my paper. I regret, however, that Dr. Post could not return from Buffalo in time. He holds that the clinical side of syphilis still needs working up in researches and should not be neglected for the serological side. He believes in my voice sign in congenital syphilis and considers it a symptom of some value.

I notice no dissenting in the discussion this evening, no one has offered any evidence that undermines this claim of a speech sign in hereditary lues. As far then as a preliminary note, though as yet unconfirmed, it stands unattacked.

In answer to Dr. Soloman, I would say a word about frequency. Of course, I have not had enough cases to establish any frequency. These other signs, Hutchinson's teeth, tibial exostoses and interstitial keratitis all have their relative frequency: A matter can be established only by having a large number of cases and making a thorough examination of every point in each.

In response to Dr. Coues I would say that it was not my purpose to be exhaustive in the presentation of symptoms. He seems to know them all! I merely present at this time what I consider as evidence enough to establish a voice sign as a new symptom.

In response to Dr. Brown, I would thank him for participating in the discussion and presenting his valuable data. I wish you all had said more to undermine my claim. It is unfavorable criticism I like best. We learn most from that.

That speech alone should have brought these patients to the Voice Clinic is significant. It shows that the speech was the one organ affected in a marked way. It shows that the speech sign was the only one noticeable. It shows that here we may have a new and easy avenue to finding syphilis in parents; and thus lead to steps of prevention not otherwise approachable.

Some may feel that the functional evidence I offer is not sufficient. I would add a word to refute this.

When in Berlin I presented my temporal lobeless dog to the Berlin Neurological Society some one objected that I had not offered anatomical proof. My chief, Professor Jacobsohn, then arose and said, "The functional evidence is sufficient." So here, the monotony, the harshness, and the low pitch in

incurable forms, are conclusive evidence of permanent structural change.

I consider the speech mechanism as the easiest avenue to the earliest symptoms of many a nervous and mental change. But we are not yet quite sensitive enough to catch this message! This paper is one of a series of contributions to this early aspect of mental hygiene, which will aid in diagnosis of vague cases in the interest of prevention. Let me emphasize again that the hope along the line of prevention is that this sign may show up some syphilitic cases that would otherwise remain unknown. It has already done so in the cases mentioned above. Once this voice sign is known and through practice can be easily recognized merely by listening, it then will be a key not only to the case in hand with brothers and sisters but to parental conditions as well.

ACUTE OTITIS MEDIA IN CHILDHOOD; AVOIDABLE MISTAKES IN DIAGNOSIS, PREVENTION, TREATMENT.

DR. BORDEN: I heartily endorse all that Dr. Emerson has said, and I am very pleased to hear the subject presented by somebody other than an aurist. It is a very important subject, more important I believe, than many of us realize. There are several points which I would like to mention which go beyond the range of Dr. Emerson's paper. It is a well known fact that pus under pressure is much more virulent than when it is unconfined. In the event of a middle ear abscess, we have this condition of pus under pressure well illustrated by the elevated temperature. The temperature remains high as long as the tension is maintained. When paracentesis is performed or the pus finds its way back into the mastoid the temperature usually falls. This fact has led me to do some rather radical operating at the Somerville Hospital during the past two years. At this institution, we have come to the conclusion that diseased conditions of the middle ear or mastoid, if very acute, are not infrequently the primary cause of complications in the heart, lungs, joints or kidneys. This theory will doubtless seem to you to be very far fetched, but we are able to prove in some six or eight cases of acute nephritis opening the mastoid cavity was speedily followed by marked relief in the inflamed kidneys. All the cases mentioned had a rather high temperature at the time of operation, but each case showed no harm as the result of the anesthetic or of surgical shock. Several other cases in this institution have been conspicuous examples of the middle ear or mastoid being foci of infection. These were cases of over prolonged convalesence. Two such cases were operated upon by opening the mastoid cavity. The only symptom of an aural nature was a chronic discharge. When the mastoid was opened in one case the entire mastoid cavity was found to be filled with pus and granulations and the lateral sinus was exposed for more than half an inch. In the other case the entire mastoid was sclerotic, but the roof of the middle ear and antrum was wanting, and the dura covered with granulations. In both cases, the general conditions of the two patients improved remarkably immediately after the operation.

Dr. Emerson has mentioned the curved incision in performing paracentesis. In my opinion, there is no necessity for a curved incision. All the talk about such a fancy surgical procedure has kept many physicians from opening distended drums when it was greatly to the patient's advantage to have the relief from pressure. I realize that this is the rankest kind of heresy from the standpoint of an aurist, but I have seen a great many so called curved incisions become the ordinary pin point opening within twenty-four hours, and I have never seen one remain a curved opening for any length of time. Hence, a straight opening made as large as is consistent with safety will do as well.

The so-called nipple-perforations of the ear drum membrane are important things to recognize inasmuch as they are the conditions which are most liable to cause future deafness. They consist simply of weak areas in the membrane and unless vigorously dealt with, slough out and leave large permanent openings. These are the cases which we see in our offices with deafness dating back to scarlet fever and measles in childhood. Nipple perforations are most common when there is a tremendous discharge from the ear. Occasionally, they occur when there is no discharge present. They may therefore occur at any stage and their presence is always a menace to the future welfare of the hearing apparatus. When a physician is called upon to care for a patient having middle ear disease, either alone by itself or as a complication of another disease, he assumes not only the responsibility of the patient's present illness, but the future of the organ of hearing as well.

DR. J. L. MORSE: Everyone who sees many children will agree heartily with what Dr. Emerson has said. One or two points were suggested to me, however, while he was talking. I think that almost everyone is inclined to be too hopeful as to the immediate results of opening the ears. One is likely to tell the family that the temperature will come down immediately, and that the child will be well in a few days. This is true in many instances, but in more it is not. The temperature remains up, or even goes higher after the ears are opened, and the family and often the physician feel positive that there must be something else the matter. It is a mistake to expect immediate benefit from the opening of the drums in every case. I have also been impressed with the duration of the symptoms in many instances before the appearance of any definite signs in the ears. The child will be sick for several days and in the absence of any symptoms or signs elsewhere it will seem almost certain that the trouble is in the ears. Finally, signs in the ears will develop, to be followed by the relief of symptoms when the ears are treated. In other cases the signs in the ears develop very rapidly, sometimes in the course of a few hours. In other instances they will disappear as rapidly. Everyone who is honest will admit, I think, that it is very difficult to see the drums in many babies under a year old. This is especially true when the drums are inflamed. In many instances it is impossible to know exactly where the drum is to be punctured. It is simply a question of making a cut where the operator thinks it should be made.

DR. EMERSON, in closing: My experience has been such that in speaking of an otitis media, I hesitate to use the word "simple," as pathologically there may be oedema of the brain with only a slight congestion of the drum membrane. I recently saw a child with perforation into the external canal and the ear drum appeared normal.

On inquiring about, I find that most physicians do not examine the ears at all. In the past few days I have asked five surgeons and five physicians, all on the staffs of our large hospitals, as to whether or not they carried with them any means of examin-

ing the ear. The surgeons all answered in the negative, one offering me his head mirror if I wanted it, saying he was quite sure he had one in his office. Of the medical men, three did not carry in their bags any means for examining the ears, the 4th carried an ear speculum because he had had an ear service as an house officer in the hospital, and was especially interested. The 5th had carried an ear speculum for the past year, since having a child very ill with an unrecognized otitis.

STUDIES IN BRONCHIAL GLANDS.

Abstract: Dr. Howell studied the cases coming under his care during the past year to determine the frequency of bronchial adenitis, the reliability of the signs and the possible pathology of the glands. The cases were from the Infants' Hospital, a large school, and private practice, about one thousand in all. The age limit was thirteen years.

It was found that the D'Espine sign varied with age, below the second dorsal in infancy, at the second dorsal at six years, at the first dorsal at twelve years, and often found as low as the third dorsal at all ages. Hence, no case was considered positive if not at or below the third dorsal.

The glands were divided into two groups, those along the trachea and those at the root of the lungs. The tracheal group was enlarged by infection entering carious teeth, adenoids and tonsils. They gave positive D'Espine but no dulness. The glands at the root of the lungs were enlarged from an inflammation out in the lung and gave both positive D'Espine and interscapular dulness, and in this series was usually tuberculous.

Dr. Smith: I was very much interested in Dr. Howell's paper, because for some time I have been working along the same line. It seems to me that an important point has been brought out by everyone, namely, that there are many other chronic conditions that give enlarged bronchial glands besides tuberculosis. The most valuable single sign of enlarged glands to me is dulness at the lung roots, best elicited by percussion between the scapulae. This is more consistently reliable than the D'Espine sign or dilated veins, or change in the character of the voice. I think that the direction of the dulness from the area into the rest of the lung is of some value in differential diagnosis. A tuberculous process involves the apices early and when, together with the dulness at the lung roots there is also dulness in one or the other apices, it is probable one is dealing with a case of tuberculosis, but when the apices are clear one ought to be very cautious about making a diagnosis of tuberculosis.

Dr. F. B. Talbot: Dr. Howell's paper has interested me very much, and I agree entirely with what he says. I would like to add, however, that I have been confused several times by x-ray pictures which apparently show an enlarged thymus, as in one instance in which post-mortem examination proved to be enlarged bronchial glands. My experience, also, has added other diseases than tuberculosis to those which may have enlarged bronchial glands. Among them are whooping-cough, and measles during the acute stage and chronic influenza of the lungs.

Dr. Bowditch: I am interested in what I understand Dr. Howell calls the normal D'Espine sign, as I have somehow or other arrived at the same conclusion. It has seemed to me to be a spot at the point where the line of the spinous processes of the vertebrae, and a line between the spinous processes of the scapula cross each other. This is about the third dorsal vertebra. At this spot I have usually found the change described by D'Espine. I was much interested in Dr. Howell's findings, and I agree most heartily with the points which Dr. Howell brought out.

Dr. J. L. Morse: It seems to me that one of the most important things that has come up this evening is the doubt which has been shown as to what D'Espine's sign is. D'Espine's sign, as he originally described it, is the persistence of the bronchial whisper through the seventh cervical spine. Others have claimed that the bronchial whisper is normally present through the second or even the third dorsal spine. I have examined every child that I have seen during the last two years in relation to the presence or absence of D'Espine's sign. A large proportion of these children were seen in private practice. In a great many of these children the change in sound occurred between the seventh cervical and the first dorsal spines. My feeling is, therefore that D'Espine was right in his original description of the sign. I do not feel sure that it is abnormal to have the bronchial sound persist through the first dorsal spine, but am positive that it is abnormal if it is heard lower than this. D'Espine's sign is very seldom found in good private practice. It is present, however, in a very large proportion of the children belonging to the hospital class, whether they are seen in the out-patient department or in the wards. I am somewhat surprised at the comparative frequency with which some men have found dulness over the vertebrae and in the interscapular space. I have often found what I have called a positive D'Espine sign when I have not been able to demonstrate interscapular dulness or dulness under the spinous processes.

Dr. Howell, in closing: Dr. Talbot in his remarks brought up the question of whooping cough. I did not include a series of whooping cough in this paper because I thought it would make it too long. I had the opportunity to examine about 30 cases in a private school not long ago, and the results were rather interesting. The exposure was pretty definite and the incubation time about normal. Some of the findings were as follows: No case developed a whoop until there was a positive D'Espine's sign, and there was no case in that series with interscapular dulness without signs in the lungs; the whooping did not altogether disappear with the disappearance of the D'Espine sign. Two cases with definite exposure, a bad cough, and lymphocytosis never developed a positive D'Espine sign, the symptoms suggesting that the whoop might be connected with thickening of the trachea. I do not mean to imply that all cases with a positive D'Espine's sign with definite signs in the lungs should be called tuberculosis, but I have been surprised to find the number of such cases which prove to be tuberculous. Since then I have looked for this sign in every child examined, and I have come to the conclusion that it is a very important sign in infants under two years. I also do not mean to imply that the D'Espine sign alone is of much value. I think it is caused by slight changes in the glands up and down the trachea, as well as by definite thickening at the hilus. I have seen cases of chronic influenza and chronic bronchitis with positive D'Espine's sign and some of these cases had a positive Von Pirquet besides, but in my opinion it is better to treat these cases as if they were tuberculosis.

ENDOCARDITIS IN CHILDREN; ITS PROPHYLAXIS AND TREATMENT IN AN OUT-PATIENT DEPARTMENT.

DR. TALBOT: Dr. Eustis has presented this paper in a very modest way. He has spent a good deal of time and energy in the work and he has told me privately that his results were a great deal better than the paper shows, and my opinion, after seeing the individuals occasionally, is that he has accomplished a great deal more than his figures show. This preliminary report is to attract attention to the methods of handling endocarditis in an out-patient clinic.

Book Reviews.

The Clinics of John B. Murphy, M.D. At Mercy Hospital, Chicago, February, April, June, 1915. Philadelphia and London: W. B. Saunders Company. 1915.

Each of these three volumes begins with Dr. Murphy's "Clinical Talks on Surgical and General Diagnosis."

In the February volume there is a series of articles upon fractures and dislocations, and a characteristic talk on appendicitis. Dr. Murphy says that pain, nausea, vomiting, elevation of temperature and tenderness in the right lower quadrant appear "early and usually in the order named." He formerly taught that this order was invariable.

In the April number are interesting articles upon carcinoma, hypertrophy of the prostate, arthroplasty of the hip. Dr. William L. Rodman of Philadelphia contributes one of the talks on carcinoma.

In the June number there is another talk on appendicitis, and a number of other chapters upon the following subjects: intestinal obstruction due to a large gall-stone; painful exostosis of the os calcis; chronic tendo-vaginitis of the extensor tendon of the thumb; tumor of testicle; technic of laminectomy; and a talk on unsuccessful gastro-enterostomy for ulcer, by William J. Mayo. The illustrations in the June number are even better than the average, and the average has always been high.

The Treatment of Fractures. With Notes upon a Few Common Dislocations. By CHARLES LOCKE SCUDDER, M.D. Eighth edition, revised, with 1057 illustrations. Philadelphia and London: W. B. Saunders Company. 1915.

This eight edition of Dr. Scudder's book is a volume of more than seven hundred pages, and is illustrated with ten hundred and fifty-seven pictures. The book maintains entirely its previous form and scope. Those who have enjoyed it before will find it still more to their liking.

It seems, however, that the detail of the operative treatment of fractures is not as full as might be desired. This is true, notwithstanding the fact that Dr. Scudder believes "operative treatment is not to be undertaken lightly." There is a disproportionately small amount of space allotted to operative treatment; an examination of Chapter XVI shows that it occupies less than ten pages, more than one-half of this space being given up to illustrations; the actual type under the heading of "The Method of Operating upon the Shafts of the Long Bones" is less than three printed pages.

There is no doubt that at present a great deal of unnecessary and inadequate work is done (and too often by poorly trained surgeons), in the operative treatment of simple or closed fractures; yet in reality this makes it the more desirable that the precise detail of the operative technic should be put down with much elaboration in a text-book of this character, which is so popular as to require either a new edition, a revision or a reprinting practically every single year since it first appeared in 1900. The illustrations are admirable, and the press work equally good.

Diseases of the Digestive Organs. By CHARLES D. AARON, Sc.D., M.D. Philadelphia: Lea and Febiger. 1915.

Dr. Aaron discusses in his book of 750 pages the diganosis and treatment of all pathological conditions of the digestive tract from the mouth to the anus. The book finds ample justification in the rapid strides that have been made in the diagnosis of abnormal conditions, particularly of the stomach and intestines. The author gives in careful detail directions for performing all the usual diagnostic tests and many of the unusual ones. His careful description of these tests is one of the most valuable features of the book. As a matter of course much reference is made to the Roentgen ray and a number of Roentgenograms are reproduced. Many workers will not agree with his implicit faith in the diagnostic accuracy of the Roentgenograph. For example, he states that "Roentgenographically about 40% of gall stones can be diagnosed." The author speaks with enthusiasm also of the use of electricity in the treatment of gastric and intestinal disorders. A certain positiveness of statement such as "all patients suffering from gastroenteroptosis require iron in some form," detracts somewhat from an otherwise sound discussion. He also speaks of the value of bacterial vaccines and phylacogens in the treatment of appendicitis. On the whole, it is a careful and complete work, accurately compiled, and well indexed and should serve as a valuable book of reference in the diseases of the intestinal organs.

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FEE-SPLITTING.

It is with no purpose of airing soiled linen in public that we animadvert on certain evil practices that obtain among a small minority of those who practice the healing art. Although the medical profession consists for the most part of high-minded ethical practitioners, there are within its ranks, just as in other professions, men holding to various standards of right and wrong. To a young doctor in the early years of practice, struggling to make a living at the beginning of that long journey to eminence and fame, substantial fees offered by an apparently successful practitioner for attendance on cases of induced abortion, or by an unlicensed midwife or physician for signing birth or death certificates, have been known to appear alluring and as legitimate pot boilers.

Commissions are given to physicians by a consultant for every patient sent to him, or they are given by pharmacists or commercial houses dealing in instruments or surgical supplies—a widespread custom,—or rebates are offered by hospitals and sanatoria to those sending patients. This is called "fee-plitting."

That the practice of fee-splitting is not unknown in this part of the country, although prevalent elsewhere, is attested by the following extract from the report of the Judicial Council of the American Medical Association to the House of Delegates in 1913, after a most careful canvass of the prevalence of fee-splitting throughout the United States by means of impersonal standard circulars with uniform questions, sent broadcast: "In the New England states the practice (fee-splitting) is not prevalent though it exists to a slight degree in them all, being most prevalent in and towards the larger cities of Massachusetts and in that part of Connecticut that is near New York."

When a commercially inclined general practitioner finds that one of his affluent patients—one worth to him several hundred dollars a year—is developing symptoms that call for a surgical operation, the thought enters his head: "If I send my patient to Dr. X he will perform an operation, will receive a large fee, my patient may not need my services again, and if requiring surgical care will go to Dr. X, and not to me; this source of my income will be cut off. Why should not I get a part of the fee for the operation? If it were not for me Dr. X would receive no fee, and he ought to be willing to share. In our town the agent of the brand of automobile I use receives a commission whenever I buy a car, no matter whether the car is purchased of him or directly from the maker; the insurance agent and the real estate man get their commissions in the same way. Why not a commission for the hard working doctor?" If Dr. X is like minded the fee is split, and then other patients follow in the same path.

A form of dishonesty met with too often in the experience of a surgeon to a metropolitan hospital may be classed as fee-splitting. A practitioner tells his patient who needs an operation that he knows Dr. ———, who is on service at ——— hospital, and he will see that the patient is entered on this surgeon's service, paying only a nominal sum for board and nursing. That he, the practitioner, will assist at the operation and make visits when it is over. Then he renders a bill, while the surgeon, who donates his services to the hospital, receives no pay. Of course, the practitioner does not assist and his visits do nothing more than pro-

vide moral comfort. In another case a practitioner arranges with his well-to-do patient for a given operation, undertaking to have it done by a competent man, and arranging all financial matters himself in behalf of his patient. He selects a skilful young surgeon, not having too much practice, and tells him he has a poor patient who can pay only a small fee. After the operation he sends in a bill, perhaps for assisting, perhaps for doing the operation. The fee is ample and he keeps most of it himself.

The young surgeon suffers much at the hands of the old and close-fisted surgeon who gets him to assist and considers the privilege enough compensation without a money honorarium.

Why is fee-splitting unethical? In the first place because it is a secret understanding between the practitioner and the surgeon. Would the patient select a given surgeon if he knew of the understanding? Most assuredly not. In the insurance business, on the other hand, it is known by all that a commission is paid to the agent. Everything is above-board. Such fees, when not paid, are sued for in the courts.

Second, the patient does not receive the best possible treatment, because the really competent surgeons will not split fees. They are able to get fees of sufficient size because of their ability and experience. Therefore the patient is taken to a second- or third-class surgeon, who tries to make up for his lack of skill or experience by adding split fees to his income.

Third, fee-splitting leads to that grave stigma on the profession,—unnecessary operations. A patient, let us suppose, has a small benign tumor. Dr. X says, "Why should not I have the fee for removing it rather than Dr. Y. If Dr. Y gets hold of this patient he will operate, so I will get ahead of him." It is a question only of diagnosis and knowledge of operative technic. The medical judgment which determines whether an operation is necessary or, if it is, which selects the time most favorable for performing it,—a quality that the patient has a right to expect of his medical attendant, is entirely lacking.

The patient of the fee-splitter pays more for his operation, for the fee must satisfy two instead of one, besides getting inferior skill. The effect of fee-splitting on the public is most disastrous because it destroys confidence in the profession. The effect of this manner of acquiring money on the medical practitioner is bound to be morally deteriorating,—to the general practitioner, because he practises deceit and makes money while sacrificing his patient's best interests; and to the surgeon, because, after the technic of a number of operations has been learned and fees can be obtained for performing these operations, stimulus is lacking to progress in the science and art of surgery.

FOUR IMPORTANT MEDICAL MEETINGS.

DURING the next ten days there will be in session in Boston, Springfield and New York four important medical meetings. The Clinical Congress of Surgeons of North America will hold its sixth annual session in Boston during the week beginning October 25, 1915. The attention of the Boston profession has already been directed to the importance and interest of this congress by editorials in issues of the JOURNAL for September 23 and October 14.

The Fourth Convocation of the American College of Surgeons is announced to take place in Boston on the evening of October 29. The Fellowship Address this year will be given by President Edmund J. James of the University of Illinois, the subject being "The Surgeon's Debt to His Profession." Dr. John Miller Turpin Finney, President of the College, will confer Fellowships upon about four hundred candidates for Fellowship who have been acted upon by the Board of Regents during the past year. The College now lists about 3200 Fellows. On the afternoon of October 29 will occur the annual meeting of the Fellows of the College, the purpose being to elect members of the Board of Governors, and to consider plans for the activity of the College during the coming year. About 1500 Fellows are expected at each of these meetings.

On Friday and Saturday of this week, October 22 and 23, the second New England Tuberculosis Conference is to be held at Springfield, Mass., under the auspices of the National Association for the Study and Prevention of Tuberculosis. A preliminary program of this meeting was printed in the issue of the JOURNAL for September 9. The purposes of this conference are, first, to discuss matters of special interest to the New England States; second, to bring the facilities and aid of the National Association more closely to bear on local problems; and third, to provide a place of meeting and discus-

sion for those who cannot attend the annual meeting of the National Association. An invitation has been extended to all anti-tuberculosis workers coming to this conference to attend also the Massachusetts State Conference of Charities, which is to be held at Pittsfield, Mass., from October 20 to 22 inclusive. At this Conference will be considered the effect upon the family of modern industrialism, the control and care of the mentally defective, correctional institutions, and other similar topics. The complete program of the tuberculosis conference is as follows:—

FIRST SESSION: FRIDAY OCTOBER 22, 2.30 P.M.

HOTEL KIMBALL

METHODS OF ANTI-TUBERCULOSIS WORK.

1. Educational Methods, by *Prof. Selskar M. Gunn, Boston, Mass.*
2. Nursing, by *Miss Mary Beard, Boston, Mass.*
3. Dispensaries, by *Dr. Eugene R. Kelley, State Department of Health, Boston, Mass.*
4. Institutions, by *Dr. Harry Lee Barnes, Wallum Lake, R.I.*

SECOND SESSION: FRIDAY, OCTOBER 22, 6 P.M.

RED CROSS SEAL SALES METHODS.

A dinner session will be held in the restaurant on the ninth floor of the Forbes & Wallace Department Store, Pynchon Street. Five minute talks will be given on methods of selling Red Cross Seals; the sale by mail, by school children, by personal solicitation, etc., and the publicity needed.

Opportunity will be given for general discussion.

THIRD SESSION: FRIDAY, OCTOBER 22, 8.15 P.M.

FIRST CONGREGATIONAL CHURCH, COURT SQUARE.

INDUSTRY AND TUBERCULOSIS.

1. The medical examination of employees, by *Dr. Allan J. McLaughlin, State Commissioner of Health, Boston, Mass.*
2. Employees' relief and aid associations, by *Dr. Charles J. Hatfield, Executive Secretary, National Association for the Study and Prevention of Tuberculosis.*
3. Insurance against tuberculosis, by *Lee K. Frankel, Ph. D., Metropolitan Life Insurance Company, New York City.*

FOURTH SESSION: SATURDAY, OCTOBER 23, 9.45 A.M.

WESTFIELD SANATORIUM.

PROGRAMS OF ANTI-TUBERCULOSIS WORK.

1. For cities of 100,000 or over, by *Seymour H. Stone, Boston, Mass.*
2. For cities of less than 100,000, by *Miss Mary Van Zile, Beverly, Mass.*
3. For small towns and country communities, by *Miss Clarissa O. Johnson, Dover, Me.*

FIFTH SESSION: SATURDAY, OCTOBER 23, 10.45 A.M.

WESTFIELD SANATORIUM.

THE DIAGNOSIS OF INCIPIENT CASES OF PULMONARY TUBERCULOSIS.

1. Lecture on "What the general practitioner should know about tuberculosis," by *Dr. Vincent Y. Bowditch, Boston, Mass.*
2. Clinical demonstration, showing how to detect early tuberculosis, by *Dr. Henry D. Chadwick, of the Westfield Sanatorium; Dr. Estes Nichols, Hebron, Me.*, and others.

The twenty-fifth annual session of the New York and New England Association of Railway Surgeons, celebrating the quarter century anniversary of that organization, is to be held in New York City on Oct. 21 and 22. At the morning session on Oct. 21 there will be presented a series of six papers, after which Dr. W. H. Marcy of Buffalo will deliver his presidential address. At the afternoon session on that day there will be a further series of five papers. The second day of the meeting, October 22, will be devoted to clinics given by the New York surgeons at the various hospitals of the city.

RE-EDUCATION OF DEMENTED PATIENTS IN HOSPITALS FOR THE INSANE.

ANY physician who has had any degree of experience in a hospital for the insane, in fact any physician or layman who has visited such a hospital, is discouraged, distressed, depressed, to an extreme degree, by the many rows and groups of idle, not to say irritable and untidy, demented patients who take up so much of the space in some hospitals for the insane and so much of the time of the attendants and nurses. This situation is both distressing and horrible, not to speak more forcefully. That the problem of occupation and exercise for the insane has been receiving greater and greater consideration in the past few years is quite well recognized. It may be stated, too, that occupation among the insane is a practice which has been followed for quite a time. But it also is a fact that this question has not been given the attention and organization everywhere which it deserves. The idea has not been followed out persistently, scientifically or as thoroughly and generally as it might be done. Most of the occupation employed among the patients in the hospitals for the insane, has, up to the present, been confined to convalescent patients or to non-demented patients. To some extent some of the slightly demented patients, of the better sort, have likewise been given occupation in some of the hospitals. But few real, earnest efforts have been made to see what could be done for the truly demented patients who are indeed a great burden on the nurses, doctors and the hospital as a whole. Most of them have been permitted to spend their time as best they knew how or could under the circumstances, and it is not surprising that as a

consequence we find so many untidy, restless, destructive and quarrelsome individuals in the chronic wards of the hospitals for the insane. Human energy must find its outlet, as a useful or useless, if not harmful, level or path of expression. May it not be that much, if not most, of this untidiness, irritability, restlessness, destructiveness, quarrelsomeness, filthiness, profanity and idleness would disappear from the hospitals for the insane, even among the patients suffering from dementing conditions, if adequate means for occupation and exercise were given to as many patients as possible? Our question is answered in the biennial report of the State Psychopathic Institute at Kankakee, Illinois, issued recently, under date of October, 1914. Under the supervision of Dr. S. N. Clark, physician to the Illinois State Psychopathic Institute, an experiment was carried out to demonstrate that it is perfectly possible by sedulous attention and proper stimulation, to make some of the most demented and untidy inhabitants of the chronic wards fairly respectable individuals and easily cared for. Although the attainment of his object required and received a considerable portion of the time of this physician, the success which crowned his efforts was actually remarkable, so much so that it may be said that this physician has found, as a result of his work, a means of improving the lowest types of dements, as well as a field of great value for the employment of other patients who manifested interest in their work as assistants in the exercises given. So much has been accomplished with the lower type of demented patients that we may rightly expect better results with less mentally dilapidated patients.

The experiment is worthy of a brief recital. A squad of patients who had sunk to the lowest levels in the most chronic wards was chosen. All presented a picture of marked affective deterioration. The methods used in the efforts at re-education consisted in care of the person, simple conversational efforts, listening to music, playing ball, marching to music, dancing, calisthenic exercises, tearing rags for carpet making, such simple household duties as polishing floors, making beds, folding clothing and the like, making reed baskets, plain sewing, and weaving colored paper, as is done so frequently in the kindergarten. The physician was aided in his work by the charge nurse of the ward, and later by some of the more intelligent and reliable patients. The results that were accomplished were obtained without any extra help. This is certainly noteworthy.

The details can be found in the publication mentioned. The results show clearly and unmistakably that markedly demented patients may be considerably improved in all respects, not excepting expression and appearance, if attention and effort be given to personal needs and employment. Although these patients cannot now be brought to a level of habits of life which may be seriously compared with the normal, yet the need of such work as here reported being put on a larger scale is surely clearly indicated. It is enough to say that these patients feel better and without doubt are more healthy. From the humanitarian as well as the economic standpoint this work should be carried on more extensively. Much unnecessary work for the attendants will be done away with, the general upkeep of buildings, furniture and, by no means least, a hygienic environment thus becomes much more simple, and much less laundry work is a result. The following trenchant statement by Dr. Clark forces home the issue in effective fashion: "Since it is possible with the ordinary facilities present in any hospital to improve the condition of patients of advanced age who have sunk so low in the scale of human activities as had those reported here, it seems justifiable to insist that proper attention and surroundings would prevent the occurrence of such degradation." Here is food for thought for all hospitals for the insane. Anything and everything should be done to do away with the disheartening sights still seen in the chronic wards of the hospitals which harbor those mentally sick persons who have been labelled insane. And prevention is greater, better and more effective than cure. It is just the condition of these demented patients which has cast a gloom, quite contagious, over so many workers in the hospitals for the insane. Measures such as are here mentioned will do much to lift the burden.

BETH ISRAEL HOSPITAL.—It is announced that the Beth Israel Hospital Association of Boston has purchased a site of land in Roxbury for the erection of a Jewish hospital to accommodate twenty patients.

AN EIGHTEENTH CENTURY BRITISH SURGEON.

In the proceedings of the section of the history of medicine of the Royal Society of Medicine for May 19, 1915 (Vol. viii) appears an interesting monograph sketch by Mr. G. C. Peachey of Dr. William Bromfield, some time a London surgeon and practitioner, a member of the Royal College of Surgeons of England, and a British representative of the family whose younger branch migrated early to Boston and has left its name and memory in this city. Mr. Peachey's sketch, reviewed editorially in the issue of the *Lancet* for September 4, 1915, presents the character and personality of Bromfield with singular vividness and probable accuracy.

William Bromfield was born in Holborn, London, and was baptized on July 30, 1713. He came of a family of gentry in Southwark, Surrey, one of whom had been created a baronet at the Restoration. William Bromfield's father, one of the younger and poorer members of the family, was a London apothecary and the son of an apothecary.

Of William's early education nothing is known. We find him first apprenticed for the study of surgery to Mr. John Ranby, to whom he later dedicated one of his books. It is reported that he settled early in practice in Holborn and that he was married in 1736. Apparently he had some literary ambitions, for in this year he published an anatomic syllabus in Latin, a work which he subsequently enlarged and republished in 1743. In 1742 he was appointed to the staff of St. George's Hospital, where he became a colleague of the celebrated John Hunter. This appointment was probably obtained through the influence of his preceptor Ranby, who was surgeon to the Prince and Princess of Wales. It is recorded in the hospital archives that Bromfield suggested the use of copper warming pans to warm surgical dressings in cold weather and that he was the first to heat the operating room.

In 1745 Bromfield was appointed to succeed Ranby as surgeon to the Prince and Princess of Wales, and in 1746 he was made first surgeon of the newly established Lock Hospital in Grosvenor Place. Bromfield's career was now assured, and during the ensuing years he seems to have enjoyed a large and lucrative London practice. He also found time to pursue his literary avocations, and in 1755 a play by him, entitled "The Schemers, or The City Match," was performed at the Royal Drury Lane Theatre. In 1760 Bromfield was appointed to the court of assistants of the surgeons' company at London, and in 1769 he became master of the company and was appointed to the Queen's household. He now retired from active practice and became consulting surgeon to the Lock Hospital, where he was succeeded on the active staff by his son Charles. Another son, William Heriot Bromfield, was also a surgeon.

Bromfield served as master of the company of surgeons until 1780, when he resigned and received a vote of thanks "for his long benevolent and highly useful assistance." During his later years Bromfield's reputation was somewhat overshadowed by the growing fame of Percival Pott. It does not appear that he was a man of brilliancy, but rather that he succeeded by a combination of energy, moderate ability and court favor. Mr. Peachey in his article says of him: "He was arrogant and self-assertive; and manually efficient though he was, we have been unable to discover in him the possession of either exceptional intellect or extraordinary intelligence."

"He twice sat for his portrait, appearing on one occasion, old, fat, dyspeptic, and grumpy, and on the other—when Cosway painted him according to that artist's flattering convention—elegant, intelligent, and fairly middle-aged. He preferred Cosway's portrait, and in his will left copies of it, handsomely framed, to three of his colleagues."

Bromfield has been credited with various surgical discoveries with regard to the ligature of vessels for aneurysm, to the reduction of a dislocated shoulder joint, to the use of moulded pasteboard splints and to the invention of two lithotomy instruments; but it does not seem that these claims are justifiable.

Besides his friendship with his tutor Ranby and his colleague Hunter, Bromfield was also on intimate terms with Dr. Thomas Lawrence, Samuel Johnson's physician and friend, of whom we published a sketch in the issue of the JOURNAL for September 23. Bromfield, however, had the misfortune to survive most of his coevals and his two sons, and in spite of the ill health of his later years lived to the considerable age of eighty, dying in 1792. His was a strongly marked and distinguished character of the medical profession of his time and his personality and the history of his associations and life remain vividly human even after the lapse of two centuries.

MEDICAL NOTES.

PREVENTION OF BLINDNESS FROM WOOD ALCOHOL.—Attention of druggists in New York City has been called forcefully to the provision of law prohibiting the use of methyl alcohol (wood alcohol) in any toilet preparation or medicinal preparation used internally or externally, and to the necessity for the proper labelling of all containers of methyl alcohol. The Department of Health is strictly enforcing this section of the sanitary code.

Some time ago an inspector of the Bureau of Foods and Drugs procured a sample of wood alcohol for rubbing from a drug company in Brooklyn. The alcohol was sold in pint bottles with a label stating the contents to be "alcohol." Analysis showing that the sample was methyl alcohol, prosecution was commenced for violation of the sanitary code. The defendant was convicted in the Court of Special Sessions of Brooklyn on June 3, 1915, and was fined $250. The justices were so impressed by the health menace occasioned by the human use of wood alcohol that they suggested giving the case the widest possible publicity.

At the last annual meeting of the New York State Pharmaceutical Association the question of the wood alcohol label was discussed and resolutions were adopted requesting the members of the Association and druggists in general to make use of the poison label on wood alcohol which the State Pharmaceutical Association would formulate. The president, Arthur S. Wardell, writes, "This year we shall have about thirty-seven hundred copies of the annual report and one of these copies will go to nearly every druggist in the state of New York whether he is a member of the Association or not, and in this way, those who were not present at the convention will be advised of the action that was taken by the convention in reference to the wood alcohol matter." He further states that the legislative committee of the New York State Pharmaceutical Association was instructed, at its annual meeting, to have a bill introduced in the coming session of the legislature, making the use of the advocated wood alcohol label compulsory.

In connection with wood alcohol poisoning, the following news item, clipped from the *New York Evening Mail*, is of interest:

"Up to April 1, from the date of the suppression of the vodka traffic, there have been treated in the Peter and Paul and Obhovsky hospitals 2,882 victims of methylated spirit drinking. Of these, 27 died.

"In two hospitals for treatment of eye diseases there have been treated 138 patients suffering from partial or total blindness from the same cause. The spirit is obtained by treatment of varnish and eau de cologne. The foregoing is the result of the investigation by a special committee named to report to a military commission."

A NEW DISINFECTANT.—The United States Public Health Service has recently issued the following statement relative to a new and apparently valuable antiseptic:

"As a result of experiments conducted at the hygienic laboratory of the United States Public Health Service it is announced that a new disinfectant, possessing qualities superior to ordinary disinfectants, has recently been discovered. The announcement is particularly important at this time, coming as it does in the face of the shortage in coal tar derivatives which has resulted from the European conflict.

"The new preparation is derived from pine oil, a by-product in the manufacture of turpentine. It is easily prepared by mixing certain proportions of the oil with rosin and sodium hydroxide solution, the finished product being a reddish-brown liquid, rather thick and oily in appearance but free from turbidity. With water it makes a perfectly white emulsion, much resembling milk. It has a pleasing odor, no objectionable taste, and attacks neither fabrics nor metals. It possesses over four times the disinfectant properties of carbolic acid and is altogether nontoxic, so that it may safely be used as a throat spray or mouth wash in solutions of the ordinary strength. The cost of the preparation is remarkably low as it can be manufactured for less than fifty cents a gallon, solely from products which are produced in this country.

"Many of the disinfectants now on the market are neither efficient nor economical, it having been demonstrated that a number of the most expensive and widely advertised are extremely weak in disinfecting power, so much so that their strength is undeterminable by ordinary methods. The sale of compounds of this nature constitutes a fraud. A second class of proprietary preparations are of guaranteed strength, thus putting a legal responsibility upon the manufacturer, but the cost of these per unit of disinfecting power is frequently excessive. The householder is therefore often at a loss to select a disinfectant which is efficient, economical and of constant strength, and it is believed that this new compound, which is to be known as 'Hygienic Laboratory Pine-oil Disinfectant,' will become one of the most useful preparations of that character."

THE INTERSTATE COMMISSION TO FIGHT MOSQUITOES IN 1916.—In order to avoid a repetition of this year's mosquito experience, Commissioner Goldwater proposes the formation of an Interstate Commission to fight mosquitoes in 1916. New York City was not alone in its suffering from mosquitoes during the past summer; the situation was no better in the neighboring States. The residents of the nearby States have a common interest in this matter with those of New York City. Furthermore, no permanent relief from the nuisance can be expected by New York, unless vigorous preventive measures are simultaneously prosecuted in Connecticut, New

Jersey, and Westchester County. For these reasons, the formation of an Interstate Commission is proposed. It will be organized, if Dr. Goldwater's plans are carried out, at the end of this year. The U. S. Public Health Service has been invited to join and has been requested to nominate a chairman to direct the work of the Commission.

PHYSICAL EXAMINATION OF SCHOOL CHILDREN BY PRIVATE PHYSICIANS IN NEW YORK.—The attention of all physicians of the city is called to Section 200 of the Sanitary Code and to the Regulations Governing the Physical Examination of School Children of the City of New York.

It is the desire of the Department, so far as possible, to have all school children physically examined by their private physicians, and to have the medical inspectors assigned to duty in the schools examine only those children whose parents are unable to afford the services of a private physician. In this work, the Department counts on the coöperation of the medical profession. The prompt examination of all children who apply to their own physicians for this purpose, with the immediate return of the card, properly filled out, will greatly facilitate the work of the Bureau of Child Hygiene, which has this matter in charge. Physicians are asked to read carefully the section of the Code, the Regulations and the card form upon which the results of the physical examination and the treatment provided must be indicated. Health certificates not made out in conformity with such regulations and on the card form provided for that purpose cannot be accepted by the school authorities. A copy of the card form together with the Regulations of the Board of Health with respect to these examinations is being sent to all physicians in the city with this number of the bulletin.

DESERVED CREDIT TO A PIONEER.—Although "good milk" was distributed to the sick poor of New York as far back as 1873 by the New York Diet Kitchen Association and milk pasteurized and modified to a set formula was dispensed to sick babies in the summer of 1891 by the Good Samaritan Dispensary, the credit for most of the effective pioneer work in the establishment of the present system of infants' milk stations belongs to Mr. Nathan Straus, who in 1892 established his pasteurized milk laboratories with depots in various parts of the city. Our readers may be interested to know that during the year ending September 1, 1915, Mr. Straus maintained eighteen milk stations in Manhattan, eight of them open throughout the winter. At these stations there were supplied 2,175,208 bottles of modified and pasteurized milk and 1,441,530 glasses of pasteurized milk. In addition, medical advice was supplied at each station. There is no doubt that this work has been an appreciable factor in the reduction of the infantile death rate in the city.

THE NORTH AMERICAN CHILDREN'S SANITARIUM.—An interesting record of the year's activities has been published by the North American Children's Sanitarium in Atlantic City. This charitable organization was established in 1910 at Atlantic City for the treatment of surgical cases of tuberculosis by the efforts of the North American. During this time 150 children have been admitted to the hospital of which 114 have been discharged. The report states that it has been the policy of the home to admit children, who, on account of their unhygienic home surroundings, have been unable to successfully combat the disease and to give them the benefit of the maximum amount of sunshine and salt air. In addition, the restoration of function of the diseased part has been attempted by means of rest in bed with extension and fixation by brace and plaster-of-paris cast. To obtain satisfactory results from such treatment it has been found necessary to keep the patients for a much longer period of time than is customary at most seashore sanitaria. The average length of stay at the institution has been 296 days.

The results of this method of treatment have been very gratifying. Of the 150 cases admitted, 108 have improved, 23 have not improved, 1 case ended fatally from tuberculous meningitis, and in 18 cases the results were not recorded.

ROCKEFELLER INSTITUTE FOR THE STUDY OF ANIMAL DISEASES.—It is announced that the buildings of the projected Rockefeller Institute for the study of animal diseases are now under construction on a tract of land near Princeton, N. J., and it is expected that they will be completed within a year. Meantime the director of the institute, Dr. Theobald Smith, and the other members of its staff have begun work in a suite of rooms temporaily lent by the departments of biology and geology of Princeton University.

CLEVELAND MEDICAL LIBRARY.—The will of the late Dr. Dudley P. Allen, formerly professor of surgery in Western Reserve University contains a bequest of $200,000. as a permanent endowment fund for the Cleveland Medical Library.

PREVALENCE OF MALARIA, MENINGITIS, PELLAGRA, POLIOMYELITIS, SMALLPOX AND TYPHOID FEVER.—The weekly report of the United States Public Health Service for October 1, shows that during the month of August there were in Virginia 2015 cases of malaria, 13 of cerebro-spinal meningitis, 76 of pellagra, 14 of poliomyelitis, 11 of small-pox and 785 of typhoid fever. During the same month there were in Massachusetts 25 cases of malaria, 10 of cerebro-spinal meningitis, 4 of pellagra, 27 of poliomyelitis and 235 of typhoid. There were 48 cases of small-pox in Kansas, 47 in Minnesota, 92 in Illinois and 94 in Indiana. There were 242 cases of typhoid fever in Indiana, 176 in Kansas, 96 in Michigan, 109 in Minnesota and 113 in Washington. It is estimated by the United States Public Health Service that the total number of cases of pellagra in the United States is probably between 25,000 and 100,000.

Decline of British Birth and Marriage Rates.—In the issue of the Journal for Oct 7, we commented editorially on certain aspects of the declining birth-rate in England. The British registrar general has recently issued his return of births and deaths during the second quarter of the current year, presenting further details of this decline and interesting relative statistics of the birth and death rates in different parts of the country.

"The 213,094 births registered in England and Wales last quarter were equal to an annual rate of 22.9 per 1,000 of the population, estimated at 37,302,983 persons. This rate is 3.3 per 1000 below the mean rate in the ten preceding second quarters, and is the lowest rate recorded in the second quarter of any year since civil registration was established. The birth-rates in the several counties last quarter ranged from 16.0 in Sussex, 17.0 in Somerset, 17.1 in Westmorland and 17.3 in Cardigan, to 27.2 in Stafford, 27.3 in Carmarthen, 27.5 in Northumberland, 28.3 in Glamorgan, 28.5 in Monmouth and 30.8 in Durham. The excess of births over deaths last quarter was only 74,515, against 102,293, 105,727 and 101,933 in the second quarters of the three preceding years. The 138,579 deaths registered in England and Wales during the quarter under notice were equal to an annual rate of 14.9 per 1,000, against an average rate of 13.7 per 1,000 in the corresponding quarter of the ten preceding years. The death-rates in the several counties last quarter ranged from 11.2 in Middlesex, 12.0 in Essex and in Rutland, 12.4 in Berkshire, and 12.5 in Buckinghamshire and in Dorset, to 17.2 in Cumberland, 17.3 in Montgomery, 17.7 in Durham, 17.8 in Denbigh, 18.3 in the North Riding of Yorkshire and 18.4 in Cardigan. The 138,579 deaths from all causes last quarter included 311 which were attributed to enteric fever, 6 to smallpox, 6,724 to measles, 590 to scarlet fever, 2,589 to whooping cough, 1,176 to diphtheria and 1,496 to diarrhea and enteritis among children under 2 years of age. The mortality from measles was nearly double the average, and that from diphtheria was slightly above the average; from scarlet fever and whooping cough the mortality was slightly below the average, and that from enteric fever was 40% below. The rate of infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 97 per 1,000, which was 2 per 1,000 above the mean rate in the ten preceding second quarters."

The Control of Cancer in England.—The American Society for the Control of Cancer has recently circulated the following statement taken from the weekly press service of the American Medical Association, and advocates its emphasis in medical journals as an example of methods for the control of cancer. This item refers to the public educational movement for this purpose in Portsmouth, England, and is based on the annual report for 1914 of the local health officer, Dr. A. M. Fraser, which shows that during 1914, there were only 197 deaths from cancer in Portsmouth, as compared with 230 in 1913.

"When the educational measures were put in force two years ago, the cancer death rate of the city had for a long period been increasing. Twenty years ago the average death rate from cancer in Portsmouth was 6.79 per 10,000 of the population, but in 1913 it had risen to 9.16 per 10,000. In that year the total number of deaths was only 34 less than were caused by tuberculosis. While admitting that the increase in the recorded cancer death rate might have been caused in part by improved methods of diagnosis, the Health Committee of the Portsmouth Town Council nevertheless believed that the present number of deaths was unnecessarily large, and they felt it incumbent to adopt whatever measures might lessen the ravages of the disease. The initiative came from Dr. Charles P. Childe, senior surgeon of the Royal Portsmouth Hospital and a member of the Health Committee of the Town Council. As early as 1906 Dr. Childe in his book 'The Control of the Scourge,' had given to the public the benefit of his extended experience with cancer. At his suggestion the Portsmouth authorities in 1913 began a campaign of public education under the official auspices of the Health Department. The methods adopted included the monthly publication in the local newspapers of articles regarding cancer and the printing and distribution of a Health Department circular on the subject. Arrangements were made for periodical lectures to midwives, nurses, and to those engaged in social work in Portsmouth. The Health Department further made provision for free microscopical examinations and reports on suspected cancerous growths in order to assist physicians in immediate diagnosis in the case of patients who were unable to pay for such laboratory service. The experience of the Portsmouth authorities had been that by far the majority of patients who presented themselves at hospitals suffering from cancer exhibited the disease in a stage too advanced to be cured. It was held that the reason for this delay in seeking advice was not as a rule because patients feared operation, but because they were ignorant that they were suffering from anything serious until they began to suffer pain. The fact that cancer at its onset is almost always painless should be widely realized in order that the public may learn the importance of other symptoms which will enable them to recognize the disease in the early stages, when it can nearly always be successfully removed by competent surgery."

EUROPEAN WAR NOTES.

Return of Dr. Jackson.—Report from Naples by way of Paris states that on October 6, Dr. Thomas W. Jackson, chief inspector of the

American Red Cross Sanitary Commission in Serbia, arrived at that city whence he will soon return to the United States.

Cholera in Austria and Germany.—During the week ended July 26, 1915, there were in Hungary 434 cases of Asiatic cholera with 240 deaths and in Croatia-Slavonia, 320 cases with 157 deaths. In Germany during the week ended August 14, 1915, there were 172 cases of Asiatic cholera with 28 deaths. The majority of these were among prisoners of war.

American Hospital at Munich.—In previous issues of the Journal we have, from time to time, noted the work of the American Hospital at Munich which is being conducted under the auspices of the Bavarian Red Cross with funds subscribed by Americans independent of the American Red Cross. At the withdrawal of the American Red Cross units on October 1st, therefore, this hospital was not obliged to be discontinued but will carry on its work as long as sufficient funds can be raised. It has devoted itself particularly to the ophthalmic surgery of Bavarian soldiers who have received eye injuries.

Continuance of Harvard Surgical Unit.—It is announced that a Harvard Surgical unit is to be maintained in service in Europe during the coming winter. Dr. Edward H. Nichols, who organized the previous Harvard unit, has issued the following notice and call for applications.

"Applications are desired from surgeons, physicians, dentists and nurses who are willing to serve with another Harvard surgical unit in a British hospital. Applications must be for a service of at least six months. Transportation will be paid both ways. The pay will be the regular army rates, with additional allowances.

"Preference will be given to Harvard medical men, and men who recently graduated at hospitals. The unit will sail within three weeks. Applications are to be made to H. H. White, University Press, Cambridge, between 9 A. M. and 5 P. M. daily."

It was originally intended that surgical units from Columbia and Johns Hopkins should continue the work of the Harvard unit; but, as these institutions find it not feasible to carry out their plan, the duty will devolve upon Harvard.

American Surgical Units in Russia.—Report from Petrograd by way of London states that on Oct. 4 there arrived in that city nine American physicians and thirty-eight nurses, constituting the majority of the personnel of the four American Red Cross units which have been in service in Germany and Austria since Dec. 1. These units, which are in charge of Dr. Cary N. Snoddy of Knoxville, Tenn., are acting under the auspices of the American Red Cross, though their expenses are being paid by the German government. They are to take care of the Austrian and German civil and military prisoners in Russia. Their headquarters will be established at Moscow, whence their activities will be distributed among the various detention camps throughout the Russian empire.

Return of Dr. Strong.—Report from New York states that on Oct. 4, Dr. Richard P. Strong arrived in that city aboard the steamer *Duca degli Abruzzi*. He is said to have stated that the total number of deaths from typhus fever in Serbia has been about 140,000. Dr. Strong proceeded from New York to Washington to make a report on his work in Serbia to the Rockefeller Foundation. It is announced from Washington, D. C., that on October 7, Dr. Richard P. Strong presented at the American Red Cross and Rockefeller Foundation headquarters in that city his report of the work of the American Red Cross Sanitary commission in the eradication of typhus fever in Serbia.

"Through the combined efforts of many workers and under the general supervision of the International Health Commission, which was formed at Nish, Serbia, of British, French, Russian, Serbian and American sanitary forces, and of which Dr. Strong was elected medical director in active charge, the epidemic rapidly declined and in the last three weeks before Dr. Strong's departure from Serbia not a fresh case of typhus could be found in the country.

"The sanitary demonstrations in the prevention of typhus which have been given the Serbian people and the construction of the various disinfecting plants throughout the country should prevent the occurrence of another epidemic of typhus. Serbia, however, is still in great need of medical men, and if fighting is resumed she will not have a sufficient number of physicians, surgeons and nurses to care properly for her wounded alone.

"The American Red Cross Sanitary Commission, which was sent to Serbia last spring, was financed by the American Red Cross and the Rockefeller Foundation jointly. The entire country of Serbia was divided into fourteen sanitary districts and an organization was perfected whose machinery ran very smoothly and effectively.

"There was a house-to-house hunt for typhus victims, who were promptly removed to special wards in hospitals; disinfection of victims and those with whom they had come in contact, disinfection of clothing, disinfection of houses, all systematically prosecuted. Rigorous quarantine rules were established and occasionally heroic measures had to be resorted to.

"In some cases, the districts were so badly affected that it was necessary to evacuate them en masse and to destroy, by partly tearing down and by fire the majority of the dwellings.

"As typhus is conveyed from man to man by vermin, the bathing and disinfection of large numbers of people and immediate disinfection of their clothing was an important problem. For

this purpose sanitary trains consisting of three converted railroad cars each were fitted up. One car contained a huge boiler, which supplied the steam for disinfection of the clothing. In a second car fifteen shower baths were constructed. A third car was fitted out into a huge autoclave, into which steam could be turned in two atmosphere pressures. In this manner the vermin were immediately destroyed and the clothes thoroughly disinfected."

Dr. Strong has now returned to his duties as professor of tropical medicine at the Harvard Medical School. On Friday of last week, Oct. 15, a special meeting of welcome in his honor was held in the Faculty Room by professors and distinguished guests of the University.

HONORS FOR AMERICAN PHYSICIANS IN SERBIA.—Crown Prince Alexander of Serbia has bestowed decorations on forty-three American physicians and sanitary engineers in appreciation of their services in checking the typhus epidemic in that country.

EUROPEAN WAR FUNDS.—On October 15, the totals of three of the New England relief funds for the European War reached the following amounts:

French Wounded Fund.....	$17,941.49
Italian Fund.....	8,872.20
Surgical Dressing Fund.....	3,381.00

BOSTON AND NEW ENGLAND.

APPOINTMENT OF A MEDICAL SCHOOL INSPECTOR.—The appointment of Dr. Laura A. C. Hughes as medical inspector of schools in Boston is announced. Dr. Hughes is to have charge of the nurses in the child hygiene division of the health department at a salary of $1200 a year. She was formerly a school physician under the previous organization of the department and is now the only woman physician who has been appointed a medical inspector in the present department.

AMERICAN ACADEMY OF DENTAL SCIENCE.—A meeting of the American Academy of Dental Science was held in Boston on October 6. The principal address, on military dentistry, was given by Dr. William H. Potter of Boston who has been on service at the American Hospital in Paris.

HOSPITAL BEQUEST.—The will of the late Julia C. Greenwood of Brookline, Mass., which was filed on October 8, in the registry of probate at Dedham, Mass., contains a bequest of $3000 to the Vincent Memorial Hospital.

BOSTON MILK AND BABY HYGIENE ASSOCIATION.—The report of the director of the Milk and Baby Hygiene Association shows a considerable increase in the number of babies cared for during the past summer with a commendable decrease in number of deaths. The figures are:

Number of babies cared for in the summer of 1913, 2185, in 1914, 2556 and in 1915, 2997. The number of nurses' visits to the homes of registered babies in 1912 was 10,115; in 1913, 13,644; in 1914, 17, 206; and this year, 16,666. The number of deaths among babies registered with the association was 29 in 1912; 16 in 1913, 15 in 1914, and six in 1915. The increase in the weekly clinics held for well babies has nearly doubled in two years.

PROPHYLACTIC ANTI-TYPHOID INOCULATION AT HARVARD.—It is announced that Dr. Roger I. Lee, professor of Hygiene at Harvard College, has planned to provide optional prophylactic anti-typhoid inoculation for all members of the University. This was also done last spring when 175 men were treated and it is hoped that a much larger number will volunteer for the inoculation this fall.

DARTMOUTH MEDICAL ALUMNI ASSOCIATION.—On October 8, a joint meeting of the Dartmouth Medical Association and the New Hampshire Surgical Club was held in Hanover, N. H. The presidential address of the former organization was delivered by Dr. C. H. Carleton of Hanover, and other papers were read by Dr. W. J. Mixter of Boston and Dr. H. L. Smith of Nashua, N. H.

The Dartmouth alumni elected these officers: President, Dr. E. H. Carleton, '97, of Hanover; first vice-president, Dr. E. A. Beaton, '98, of Franklin; second vice-president, Dr. W. A. Bartlett, '11, of Manchester; secretary-treasurer, Dr. H. N. Kingsford of Hanover; executive committee, Dr. C. F. Flanders, '81, of Manchester; Dr. F. P. Lord, '03, of Hanover, and Dr. A. R. Kimpton of Boston.

The New Hampshire Surgical Club elected Dr. W. H. Lyons of Manchester, president; Dr. G. C. Wilkins of Manchester, vice-president, and Dr. C. E. Congdon of Nashua, secretary-treasurer.

QUARANTINE FOR FOOT AND MOUTH DISEASE.—As a result of the recrudescence of the foot and mouth disease in Illinois, which we noted in last week's issue of the JOURNAL, the Massachusetts Bureau of Animal Industry has issued the following orders closing the stockyards at Brighton and Watertown in this state, and declaring an embargo against cattle, other ruminants and swine from Illinois.

"Section 1. The bringing of cattle, sheep, other ruminants and swine into the Commonwealth of Massachusetts from the State of Illinois for any purpose whatever is hereby prohibited, except on written permission of the commissioner of animal industry.

"This order shall not apply to animals in transit from some other State through the State of Illinois, provided the same are intended for immediate slaughter, and consigned to slaughtering establishments under federal inspection, and provided further that the animals are not unloaded in said State from the cars or vehicles in which they were originally shipped.

"Section 2. This order shall be published by sending copies to railroad companies engaged in the transportation of animals to Massachusetts and to persons, firms, or corporations which receive interstate shipments of animals intended for slaughter."

The order closing the stock yards reads as follows:—

"Owing to the receipt this day at the premises of the Brighton Stock Yards Company in Brighton, within the city of Boston, Mass., of an animal suspected of being affected with foot and mouth disease, said premises and all meat cattle, sheep, other ruminants and swine now contained in the barns and yards of said premises are hereby placed in special quarantine until released therefrom by the commissioner of animal industry.

"During the existence of this special quarantine, all persons entering or leaving said premises shall be subject to such regulations as the commissioner of animal industry may deem necessary in order properly to enforce and maintain said special quarantine.

"The Union Market Stock Yards at Watertown are hereby declared closed until further notice."

On Oct. 11 it was reported that a recurrence of the epizoötic had been discovered among seven cows in a herd at Leicester, and accordingly the whole of Worcester County was placed under provisional quarantine.

An active protest has been made by cattle owners against the hardship and pecuniary loss to them involved in these regulations.

Meeting of Social Hygiene Organizations. —In the issue of the Journal for Sept. 30 we published the preliminary program of the meeting of the American Social Hygiene Association in conjunction with the Massachusetts Society for Social Hygiene. This meeting was held in Boston on Oct. 8, and was attended by about 150 members. The afternoon session was devoted to a symposium on the problem of venereal disease and addresses were made by Dr. Donald R. Hooker of Baltimore, Dr. Edward L. Keyes, Jr., of New York; Dr. Allan J. McLaughlin, Massachusetts State Commissioner of Health; Dr. George H. Kirby of New York, Dr. Gardner T. Swarts of Providence and Dr. George W. Goler of Rochester. The evening session was a public meeting, at which there were addresses by Dr. Henry P. Wolcott, Dr. Charles W. Eliot and others.

At the business meeting of the American Social Hygiene Association, which occupied the forenoon session, the following officers were elected for the ensuing year:—

Abram W. Harris, president of Northwestern University, president; Dr. Charles W. Eliot, honorary president; active vice-presidents, David Starr Jordan, William T. Foster, Felix M. Warburg, Walter T. Sumner; treasurer, Henry L. Higginson, Boston; secretary, Donald R. Hooker, M.D., Baltimore; directors, Thomas M. Balliet of New York, Mrs. C. A. Herter of New York, Mrs. Martha P. Falconer of Darlington, Pa.; William A. Greer of New York, Delcevare King of Boston, Dr. Lawrence Litchfield of Pittsburgh, James B. Reynolds of New York, and E. R. A. Seligman of New York.

Dr. William F. Snow, the general secretary, presented his annual report, which showed that the membership had grown during the year from 172 to 470, representing 33 states, of which California has 17 members, Connecticut 14, District of Columbia 10, Illinois 27, Maryland 22, Massachusetts 92, New Jersey 23, New York 148, Ohio 17 and Pennsylvania 35, the other states having smaller representations. It is estimated that by the work the organization has done this year it has reached directly about 150,000 individuals.

As counsel for the association James B. Reynolds of New York read a report which dealt exhaustively with the subject of investigation and legislation. He stated that 28 Legislatures had measures before them last year dealing with the question of social diseases. There were about 500 measures which reached the association and were reviewed by it and summarized and returned to the legislative bodies with suggestions. Nearly all the states passed some legislation bearing upon the subjects in which the association is interested.

Obituary.

PROFESSOR PAUL EHRLICH.

Dr. Paul Ehrlich, who died on August 20, at Bad Homburg, Germany, was born of Jewish parentage on March 14, 1854, in Strehlen, a small Silesian town some twenty miles south of Breslau. He received his preliminary schooling at Strehlen and entered the University of Breslau at an early age. His family had produced several scientists of distinction, notably Dr. Karl Weigert, the celebrated pathologist, who was Paul Ehrlich's cousin. Ehrlich himself is said to have been but an indifferent student at the the gymnasium and the university, preferring to devote his time to original experimentation rather than to the routine of academic work. He was recognized, however, as a man of unusual talent and finally graduated from Breslau with distinction. Later he obtained the degree of M.D. from the University of Strassburg, and subsequently continued his medical studies at Freiburg and at Leipzig. In 1877 he qualified as a medical practitioner in Breslau, and in 1878 he was appointed chief assistant in Frerich's medical clinic at Berlin, where he remained for seven years.

Ehrlich's genius, however, was for laboratory investigation, not for clinical practice. In 1884 he was made a titular professor by the Prussian government and in 1887 became a docent at the

University of Berlin. In 1888 the impairment of his health, leading to a suspicion of phthisis, compelled him to abandon his work and to travel for a year and a half in Egypt and other countries. Returning to Berlin in 1890 he was given a place in the laboratory of Dr. Robert Koch and received the title of professor extraordinary at the University of Berlin.

Ehrlich now undertook the experimental study of toxins and anti-toxins, in the course of which he began the extensive researches in serology and cellular pathology which first attracted the attention of the scientific world. In 1896 he was made director of the Royal Institute for Serum Research at Steglitz near Berlin. In 1897 he was made a privy councillor by the Prussian government, and in 1899 director of the Royal Institute for experimental therapeutics at Frankfort-on-Main. Here he undertook, with Morgenroth, the study of hemolysis. In 1900 he was selected to deliver the Croonian Lectures at London. In 1902 he followed Jensen of Copenhagen in an investigation of malignant tumors of mice, and for his work on immunity received, in 1903, the gold medal for science from the King of Prussia. In 1904 he published his collected studies in immunity, and was made an honorary professor in that subject at the University of Göttingen. It was in this year also that he visited the United States, lectured in several of our larger cities and received the honorary degree of LL.D. from the University of Chicago.

In 1906 the Institute for Chemical Therapeutics was established at Frankfort by Mrs. George Speyer and Ehrlich was made its director. Here he devoted himself to the science of chemotherapy, of which he must be considered the essential originator, and began his series of researches in sleeping sickness and syphilis, which resolved itself into a study of the synthetic organic compounds of arsenic, and culminated in the discovery of salvarsan and neosalvarsan. In 1907 he was made chief medical privy councillor of the Prussian government, delivered the Harben lecture in London and received the honorary degree of Sc.D. from the University of Oxford. In 1908 he divided with Metchnikoff the Nobel prize of that year for work in immunity. In 1913 he delivered the oration in pathology before the International Medical Congress in London. In 1914 he was awarded the Cameron prize of the University of Edinburgh and received from Emperor William the second class of the Order of the Red Eagle.

Dr. Ehrlich was a man of incessant and brilliant mental activity, capable of intense concentration, and a prolific author. Between 1877 and 1914 he contributed 212 books and papers to the literature of science. His first important work, on the oxygen requirement of the organism, was published in 1885. In it he recorded his early use of the various aniline dyes and presented the first outline of his famous side-chain theory.

Ehrlich's life has been divided into four periods: the first, from 1877 to 1890, was devoted to chemical studies and to experiments with aniline dyes; the second, from 1890 to 1899, to the study of toxins, anti-toxins, the chemistry of immunity, and to the development of the side-chain theory. The third, from 1899 to 1906, to the study of hemolysins, of malignant disease in rats and mice, and to the completion of the side-chain theory by the theory of amboceptors; and the fourth, from 1906 to 1915, to the study of chemotherapy, especially in the treatment of trypanosomiasis. In its description of his life, in its issue of August 28, the *Lancet* presents in part the following account and analysis of his scientific work:—

"Paul Ehrlich will be remembered for his investigations on the specific action of dyes on living tissues, for the 'side-chain' theory, and for the discovery of salvarsan. Possessed of the truly scientific spirit in the highest degree, his aims were yet consistently practical and utilitarian, and even his speculative and highly involved hypotheses had a practical aspect, and were often used simply as a scaffolding upon which to build further advances in experimental work. It is this aspect of his energies which has served to secure for him a world-wide acknowledgment and recognition during his lifetime such as few scientific men achieve. This practical bias of mind puts Ehrlich in company with Pasteur, Lister, and Koch, whose work he continued and amplified, and perhaps the greatest praise that can be given him is to associate him with them as a worthy compeer. It was in the study of hematology that he first came to the front, and here he was a pioneer. By his careful study of the effects of dyes on various constituents of the blood cells, both red and white, he not only put the study of blood diseases on a scientific basis, but also did perhaps more than any other biologist to elevate the importance of the investigation of cellular reactions and to promote careful research into what has now been raised to the dignity of a special branch of biology under the name of cytology. Here comparatively early in Ehrlich's scientific career we may observe the utilitarian tendency of his work, for the whole structure of modern hematology and all methods for the cytological investigation of exudates, now so valuable in diagnosis, are the direct outcome of his original studies. The use of methylene blue injected *intra vitam* as a means of studying oxidation processes in the body, although a commonplace of the textbooks of physiology, is perhaps less generally known but is none the less a striking original piece of work.

"Another of Ehrlich's practical contributions to the study of immunity, and an important one, was his brilliant work upon the standardization of diphtheria antitoxin. It is always difficult to apply mathematical considerations to complex biological problems, but it was obvious that if antitoxin therapy were to be safe and uni-

form, this must be done. Ehrlich's solution of this question was a masterpiece of exact investigation, and remains the only practical method of antitoxin measurement and dosage.

"The discovery which brought Ehrlich's name before the public was the introduction of salvarsan. It was no haphazard discovery, but it was based on a long series of investigations proceeding along well-defined lines. A necessary corollary of the side-chain theory was the idea that a living cell, be it a cell of the body itself or of an invading microbe, was susceptible of certain chemical combinations, and, therefore, if it were to be affected by any drug, that drug must possess certain chemical attributes or no effect would be produced. Hence it follows that definite chemical groups in the drug employed will have definite chemical actions, so that, were our knowledge sufficiently wide, we should be able to predict the action of any drug before it was employed; and although our learning at present falls far short of this extent, yet we can gauge much of the action of an untried chemical substance if its constitution is known. From this basis Ehrlich started on an investigation of a cure for syphilis. He aimed at some substance which should destroy completely all the spirochetae pallidae in the body. He started from the fact that arsenic had been used with success in the treatment of syphilis, and he designed to obtain a substance which, while causing the minimum of harm to the human body, should be a potent agent in destroying the spirochetae. He gave directions to those chemists who assisted him to prepare chemical substances, thus reversing the usual process, where the chemist invents chemical substances which he offers to the physician for trial. Here the physician gave the direction to the chemical investigator. After a large amount of work Ehrlich, at length, evolved salvarsan, or dioxydiaminoarsenobenzol, '606,' as it was called in the convenient phraseology of the laboratory, and the drug was found at once to exert a wonderful influence on syphilis. Experience has confirmed the value of Ehrlich's work. The drug causes a marvellous improvement to occur with extreme rapidity, and though experience has shown that there is no *'sterilisatio magna,' yet the benefit is* great and lasting, and this in the vast majority of cases without any harmful effect on the patient. It is true that a number of deaths, in fact many deaths, have followed the use of salvarsan, but in most cases these are explicable by some error in administration or some idiosyncrasy; and it is noteworthy that in several long series of cases there have been no deaths. With the results that have been obtained with salvarsan Ehrlich was not content; he continued his researches, and one result of these is neosalvarsan, which in some respects is an improvement on its predecessor. But Ehrlich, with the spirit of the true philosopher, continued looking for some substance which should be capable of producing a 'sterilisatio magna,' and the work which he has not lived to accomplish remains to be carried out by others. Although differences of opinion exist as to the ultimate value of salvarsan, there can be no doubt that the medical profession has had put into its hands a weapon of extraordinary power."

The death of Dr. Ehrlich removes one of the most brilliant figures which the scientific world has known during the past half century. Of his personality little is known well except by those who shared in the intimacies of his professional work. He is described as a man intensely preoccupied, absent-minded of all concerns in life other than the problem on which he was engaged. His death, at a time when his intellectual activities were at their highest and when he might have been expected to carry his researches to still higher achievements, is an incalculable loss to science. Dr. Ehrlich is survived by his widow and by two daughters.

Perhaps the most appreciative and illuminating sketch of Ehrlich's character and of the significance of his discoveries is that contributed to the *British Medical Journal* by Dr. C. H. Browning, director of the Bland-Sutton Institute of Pathology in the Middlesex Hospital.

"It is seldom given to one man by his discoveries to revolutionize the outlook on five or six different departments of knowledge and to open up as many unknown paths along which multitudes of others may make rich journeys of discovery. Thus, his investigations on the staining of the leucocytes laid the foundation of modern hematology; his observation that methylene blue possesses an elective affinity for nerve endings has been the starting point of a whole school of highly fruitful neurological research; it was Ehrlich who discovered the acid-fast property of the tubercle bacillus and who devised the method of staining this organism which is practically that now in every-day use, and without which, as Koch himself admitted, the demonstration of the organism would have remained an academic accomplishment instead of becoming one of the most valuable diagnostic procedures in medicine. Similarly, by his work on the standardizing of diphtheria antitoxin Ehrlich placed the dosage of antiserum on a scientific basis, without which von Behring's great discovery would probably have failed in its wonderful achievement. It is well to recall the earlier work of Ehrlich, because it shows the extraordinary versatility of his mind and the remarkably long period during which he continued to produce results of first-class importance; thus the discovery of the acid-fast character of the tubercle bacillus was published when he was 29 years of age, and the 'Oxygen Requirements of the Organism,' which contained the germ of his chemiotherapy, when he was 31, and before he had attracted the multitude of workers who latterly sought his laboratories. In his later days, when he was the director of the busy Institute of Experimental

Therapy and the Speyer-Haus at Frankfurt, with their numerous assistants, it was occasionally forgotten what the man achieved by himself. Of course, it was true that individual workers unearthed treasures, whose existence Ehrlich had not suspected, or of whose sterling value he had occasionally to be convinced, but all who were capable of taking an honest and a generous view, knew well that even if Ehrlich did not always foresee the actual nature of the treasure, it was almost invariably he who had discovered the trove.

"The writer worked at Frankfurt during the period (1905-7) which immediately preceded the discovery of salvarsan, and being engaged on the biological investigation of a large series of the arsenical preparations which preceded the famous '606,' it was his great privilege to be intimately associated with Ehrlich in those themes which were then of all-absorbing interest to him. Ehrlich was in those days, even as earlier, an indefatigable worker, and his mind was the sharp sword which ever tended to wear through the scabbard. Had it not been for the solicitous care of his wife there is little doubt that we should have had to regret his loss still earlier. His knowledge of chemistry, especially in its bearings on biology, was immense; at the same time he possessed a power of concentration which appeared almost uncanny, and which in its capacity for eliminating trifles would quite unfit the average man for the ordinary affairs of life. Ehrlich's writings exhibit a singular felicity of expression; he had a genius for the creation of descriptive phrases, such as his famous *Corpora non agunt nisi fixata*, and this same quality made personal association with him a never-failing inspiration and stimulation to fresh effort. He was extremely fond of expressing his ideas symbolically, and the diagrams illustrating his theories on immunity are an example of this; these have probably been taken much too literally, and have produced crude conceptions of the nature of the highly complex class of bodies to which toxins and antitoxins belong, which Ehrlich himself never entertained. Latterly the theories of immunity did not actively interest him, although he was at all times ready to uphold the accuracy of the enormous mass of experimental data on which they were based. It is significant that he did not regard cancer investigation with a very sanguine outlook. Were I to attempt to characterize in brief the genius of Ehrlich, I should say that it consisted in two striking characteristics—his faculty for escaping the trammels of error in past work, and his capacity for bringing into association as the basis for experiments ideas which purely critical minds would tend to dismiss as fantastic. Having effected a synthesis, he was then pre-eminently able to grasp the essential elements. Ehrlich's power to evade the pitfalls of old error was clearly seen in his researches, which led to the elucidation of the constitution of atoxyl; a belief in the accepted view of its composition as an aniline would have effectually prevented all the further developments which culminated in salvarsan. His synthetic faculty is exhibited by the numerous reactions in pure chemistry with which his name is associated, and his keen gift for analysis is exemplified by his fundamental discoveries on the relationship subsisting between chemical constitution and biological action. This is a time at which it is difficult to see clearly, but one feels sure that the perspective lent by the future will bring into still greater prominence the influence of Paul Ehrlich on the advancement of medicine. It is singular that this man, whose practical contributions to medicine have been so numerous, probably never approached any problem in a utilitarian spirit; pure sciences frequently stand in need of apologists, and Ehrlich's whole career is a striking vindication of the pursuit of knowledge for its own sake. He who seeks finds, and Ehrlich was an inspired seeker."

Massachusetts Medical Society.

STATED MEETING OF THE COUNCIL.

A stated meeting of the Council was held in John Ware Hall, Boston Medical Library, Wednesday, October 6, 1915, at twelve o'clock, noon. The president, Dr. Charles F. Withington, was in the chair and the following 83 councilors present:—

COUNCILORS PRESENT.

BARNSTABLE,
E. E. Hawes.
C. W. Milliken.

BRISTOL NORTH,
Sumner Coolidge.
F. A. Hubbard.

BRISTOL SOUTH,
E. F. Cody.
W. A. Dolan.
H. G. Wilbur.

ESSEX NORTH,
R. V. Baketel.
T. R. Healey.
G. E. Kurth.
E. H. Noyes.

ESSEX SOUTH,
C. H. Bangs.
R. E. Bicknell.
N. P. Breed.
H. K. Foster.
P. P. Johnson.
Butler Metzger.
J. F. O'Shea.

FRANKLIN,
G. P. Twitchell.

HAMPDEN,
T. S. Bacon.
H. W. Van Allen.

HAMPSHIRE,
J. S. Hitchcock.

MIDDLESEX EAST,
C. J. Allen.
E. S. Jack.

MIDDLESEX NORTH,
C. E. Simpson.

MIDDLESEX SOUTH,
Albert August.
M. H. Bailey.
H. T. Baldwin.
F. E. Bateman.
C. H. Cook.
H. F. Curtis.
G. W. Gay.
C. M. Hutchinson.
A. A. Jackson.
J. B. Lyons.
S. F. McKeen.
C. E. Mongan.
E. H. Stevens.
J. O. Tilton.
Julia Tolman.
G. T. Tuttle.
Alfred Worcester.

Norfolk,
M. V. Pierce.
J. W. Bail.
E. H. Brigham.
A. N. Broughton.
W. W. Harvey.
G. W. Kaan.
Bradford Kent.
T. J. Murphy.
A. P. Perry.
E. P. Starbird.

Norfolk South,
C. S. Adams.
J. C. Fraser.

Plymouth.
Gilman Osgood.
F. J. Ripley.
F. G. Wheatley.

Suffolk,
E. S. Boland.
G. W. W. Brewster.
E. M. Buckingham.
W. L. Burrage.
E. A. Codman.
G. A. Cralgin.
R. L. DeNormandie.
C. M. Green.
W. C. Howe.
H. T. Hutchins.
R. W. Lovett.
J. J. Minot.
J. L. Morse.
R. M. Smith.
D. H. Walker.
C. F. Withington.

Worcester,
F. H. Baker.
W. P. Bowers.
C. A. Church.
Homer Gage.
David Harrower.
W. L. Johnson.
G. O. Ward.
L. F. Woodward.
S. B. Woodward.

Worcester North.
A. P. Mason.

The records of the last meeting were read and accepted. The president nominated and the Council appointed these delegates: To the annual meeting of the Vermont State Medical Society in Burlington, October 14 and 15, 1915: Dr. John S. Hitchcock, of Northampton; Dr. Francis P. Emerson, of Boston. In the same manner Dr. E. O. Otis and Dr. W. H. Robey, Jr., were appointed a committee to audit the treasurer's accounts.

The Committee on Membership and Finance presented this report through Dr. Green, and it was accepted and its recommendations adopted by vote:

Report of the Committee on Membership and Finance.

The Committee on Membership and Finance makes the following recommendations as to membership:

1. That the following named Fellows be allowed to retire, under the provisions of Chapter I, Section 5, of the by-laws:

John Standish Foster Bush, of Winchendon.
William Barker Hills, of Brookline.

2. That the following named Fellows be allowed to resign, under the provisions of Chapter I, Section 7, of the by-laws:

William Henry Beardsley, of Springfield.
John Paine Torrey, formerly of Andover, now of Norman, Oklahoma, (to take effect January 1, 1916.)
Earl Morey Vrooman, of North Adams.

3. That the following named Fellows be deprived of the privileges of Fellowship for non-payment of dues, under the provisions of Chapter I, Section 8, of the by-laws:

William Wallace Broga, of Springfield.
Thomas Joseph Cahill, of Cambridge.
Thomas Greene Clarke, of Langley, Washington.
Daniel Hiram Craig, of unknown address.
Herbert Clair Deans, of Roxbury.
Francis William Donahue, of Greenfield.
Edward Hugh Ferguson, of Wrentham.
Charles Lawrence Furcalow, of Springfield.
Edward Richard Gookin, of Dorchester.
Gottfried Leonhard Hagen-Bürger, of Havana, Cuba.
Hampar Paul Kazanjian, of Lawrence.
Isaac Klein, of Boston.
Wilfrid Teller La Fortune, of Fitchburg.
Samuel Sanford Orr, of Weston.
Sumpat Kevork Pachanian, formerly of Lowell, present address unknown.
Charles John Peirce, of Shirley Village.
George Merrill Randall, of Lowell.
Frederick Rodney Sanborn, of New York.
Joseph Shohan, of Roxbury.
Henry Marr Stoodley, of Somerville.
Wellington Andrew Thompson, of Manchester, N. H.
Frank Elmer Tilden, of North Easton.
Raymond Sargent Wilder, of New York.

For the Committee on Membership and Finance,
Charles M. Green, *Chairman.*

A petition of J. J. Sullivan, of Lawrence, for restoration to the privileges of fellowship was referred to this committee: W. H. Merrill, J. A. Dorgan, F. A. Conlon.

A similar petition from O. M. Deems, of Springfield, was referred to J. M. Birnie, E. L. Davis, T. S. Bacon.

On motion by W. C. Howe it was,

Voted: That because of the disturbed state of Mexico Dr. A. W. Parsons, of Tampico, did not receive the notice that the Council had voted February 3, 1915, to restore him to the privileges of fellowship provided he paid past and current dues within two months of the date of the Council meeting, and because he now expresses a desire to be restored under the same conditions it is voted that the time during which he may pay up be extended to December 31, 1915.

Voted: That Dr. A. J. Stevens, of Malden, a retired Fellow, be restored to active fellowship upon his own request, under the terms of Chapter 1, Section 5, of the by-laws.

The reports of the committees appointed to consider the petitions of the following for restoration to the privileges of fellowship, namely that they be restored provided they pay past and present indebtedness within one month, were accepted: A. V. Lyon, F. H. Lally, Ada H. Tedford, S. H. Rubin.

Dr. Charles M. Green, Chairman of the Committee on Membership and Finance, introduced this amendment to the by-laws and moved its adoption:

Chapter VII, Section 3, that the word "June" in the last line of the fourth paragraph be changed to "March"; so that the clause shall read: "This dividend shall be apportioned among the district societies according to the number of annual assessments which shall have been paid to the district treasurers previous to March first."

It was discussed by the following councilors: C. M. Green, E. M. Buckingham, G. O. Ward, W. H. VanAllen, A. Worcester, S. B. Woodward, C. W. Milliken and G. W. Kaan. The last named offered an amendment to Dr. Green's motion to the effect that it be indefinitely postponed. On being put to a vote, Dr. Kaan's amendment was lost and the original motion was passed. The appended report of the delegation to the House

of Delegates of the American Medical Association, last June, was read by the secretary in the absence of Dr. Hugh Cabot:

REPORT OF THE MASSACHUSETTS DELEGATION TO THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION, JUNE, 1915.

Gentlemen:

The most striking feature of the report of the Trustees was the evidence submitted of the profound effect the propaganda against patent medicines was having on the proprietors of these remedies. A formidable list of law suits filed against the Association was presented, but interestingly enough none of them have come to trial and some have already been dropped from the docket. In short, the Association has successfully called these bluffs.

The Judicial Council made a most exhaustive report of the development of Workmen's Compensation laws in this country and abroad, which may be regarded as the most valuable survey of this development hitherto compiled and will prove a most satisfactory document for reference.

This Council also showed its courage by recommending that a certain Fellow against whom charges of advertising had been proved, be dropped from the rolls. This advice was adopted and may be regarded as a good beginning in the enforcement of discipline by this powerful body.

The recommendations of the Council that the Secretary of the American Medical Association prefer charges against any Fellow when overt acts on the part of such Fellow, supported by reasonable proof, were brought to the attention of the Secretary. This will provide a method of preferring charges which will not involve the necessity of having charges brought by another Fellow who might often be unwilling to do so.

The report of the Council of Medical Education showed that it has continued its most remarkable work in aiding the consolidation of medical colleges and raising their standards. It has made a study of hospitals, both from the point of view of clinical teaching and as concerns their availability in providing internships for medical graduates. From this study as a basis we may expect to see this Council use its great influence toward making a hospital year a requirement for practice.

The Council on Health and Public Instruction, acting with the American Bar Association and the American Institute of Criminal Law and Criminology, has prepared a bill for submission to state legislatures regulating expert testimony in criminal cases involving questions of insanity. The bill was made to cover only this small portion of the question of expert testimony in order not to make the experiment too radical and to increase the chance of its adoption and trial. This we believe to be the beginning of a valuable reform.

The general impression left upon one's mind by this year's Session of the House of Delegates was that the Councils have proven a most valuable means of doing an enormous amount of important work and that the House had learned to rely upon them.

It is with pleasure that we record that in spite of the great distance and the amount of time involved in attending the meeting, four out of the five delegates from the Society were in constant attendance.

Respectfully submitted,

HUGH CABOT.

Voted: To accept the report.

Dr. C. J. Allen presented the minority report and Dr. G. W. Gay the majority report of the committee appointed last June to consider the advisability of employing legal counsel in medical matters before the Legislature. After discussion, participated in by Dr. Allen, Dr. Gay, Dr. Thompson and Dr. Cook, the majority report was accepted by vote.

MAJORITY REPORT.

EMPLOYMENT OF LEGAL COUNSEL.

Gentlemen:

At the last meeting of the Council on June 8, 1915, a special committee was appointed by the president for the following purpose: "To investigate the advisability of employing legal aid in safeguarding the interests of the Society in matters that may come before the Massachusetts Legislature. They shall ascertain the approximate cost of such aid and report with recommendations to the next meeting of the Council."

This committee held a meeting on June 28th, and after a free and harmonious discussion, it was agreed that a majority and minority report should be presented to the Council. The majority report is hereby offered for your consideration.

In the remarks of the chairman of this committee made on presenting the subject to the Council, several reasons were given therefor among which were the following:

First. A report that the National Association of Retail Druggists proposed to make an effort to secure legislation prohibiting the dispensing of medicines by the physicians, except they be legalized druggists. In other words, our patients were to receive no medicines except at the hands of the apothecaries.

A moment's consideration would seem sufficient to convince anyone of the futility of seeking such legislation before a Massachusetts legislature. The most obtuse legislator would at once see not only the absurdity of such a law, but also the impossibility of enforcing it were it placed upon the statute books. This proposition does not seem of sufficient importance to justify any extra expense to the Society.

Second. It was also stated that this Association will seek measures to prohibit the manufacture of all "galenical preparations," by the large manufacturers, and to destroy the trade in nostrums.

The natural inference to be drawn from the instructions submitted to this committee is that the work of the Standing Committee on State and National Legislation of this society is not satisfactory to a portion of its Fellows. A brief examination of the annual reports of that committee for the past ten years, which are in the hands of every member, would seem sufficient to convince reasonable persons that the committee's efforts had been very efficient. Composed of the president and four other Fellows, it has the valuable assistance of an advisory committee of one or more physicians in each of the forty Senatorial Districts of the state. Efforts are made to get in touch with members of the legislature through their family physician and in every other proper way for the purpose of informing them of our objects, the reasons therefor, and of the benefits to the public that we seek to obtain. Furthermore, they are given to understand that the Massachusetts Medical Society has no axes to grind, that it asks nothing of the legislature for itself, but that its sole object is in the welfare of the Commonwealth.

Many years ago, certain members of this Society, who were interested in legislative matters, were told by the public health committee in the Legislature, that it was not necessary to employ counsel for the presentation of medical bills to that committee, as the committee had sufficient confidence in the medical profession to justify their belief that it would not present or advocate unworthy, or improper measures before legislative committees.

For many years the policy of the Committee on State and National Legislation had been founded upon that advice. The committee has the authority to employ counsel upon all proper occasions, and it has availed

itself of this privilege in numerous instances. The results of this policy are matters of record and are in the hands of the members of the Society.

The estimated cost of employing counsel, as specified in the vote in hand, has received due consideration. Several first-class attorneys have been consulted upon that point. The estimates have varied from $500 to $1500 annually. One thousand dollars would probably be sufficient to secure satisfactory service annually.

The undersigned fail to see any advantage to be gained by employing further legal aid in legislative work than is already the custom upon the necessary occasions. We do not believe that the legislative work in the interests of this Society, nor that the professional work in the interests of the public can be done as well by lawyers as by physicians. From an intimate knowledge of the work and achievements of our Committee on State and National Legislation extending over many years, we believe that the above interests are safer in the hands of this committee and will be managed more successfully by it than can be reasonably expected of any legal body and at much less expense.

For these and other reasons that need not be specified upon this occasion, we recommend that no counsel be engaged or employed to look after legislative matters pertaining to this Society, other than is now the custom of the committee to whose hands they are committed.

Respectfully submitted,

GEORGE W. GAY.
CHARLES M. GREEN.

MINORITY REPORT.

EMPLOYMENT OF LEGAL COUNSEL.

Gentlemen:

I regret very much that I am compelled to differ from my colleagues, but believing as I do, that the time has come when the interests of the Massachusetts Medical Society demand the aid of competent legislative counsel, the only course open for me to pursue, is to submit this minority report.

Every year, our profession is made the target of various kinds of attack by various kinds of people, and if we can believe the statements of our friends the enemy, the coming legislative year will witness a series of attacks more vicious than any that have preceded them.

In addition to the usual attempt to break down our vaccination laws and weaken our medical registration act, it is planned to introduce a bill, the object of which is to prevent physicians from doing any dispensing. Back of this bill will be the best organized body of men in this country, possessed of unlimited money with which to hire the shrewdest legal talent obtainable.

I believe that we should place at the disposal of our able legislative committee the services of a lawyer, familiar with the wiles of unscrupulous lawmakers, one who is able to meet them at every turn and beat their every game.

I do not believe that it will be necessary or wise for him to make himself prominent at legislative hearings. His work would rather consist in mapping out plans, preparing cases, deciding on available evidence, etc. It is a familiar saying that a case well-prepared is half won.

Such aid can be secured next year for $1000. This sum can be obtained in three ways: First, let each man who eats it pay for his annual dinner; Second, use the money that is now returned to the District Societies as rebates; Third, let every man pay for his own JOURNAL.

I therefore recommend that $1000 be appropriated to secure legal counsel, the same to be expended by, and at the discretion of, our Committee on State and National Legislation.

Respectfully submitted.

CLARENCE J. ALLEN.

The president referred to the death of Dr. James Edwin Cleaves of Medford, which occurred June 20, 1915, shortly after the Council meeting, which he attended. Dr. Cleaves was sixty-one years old and had been a councilor for many years.

Dr. C. M. Green offered the following motion for the Committee on Membership and Finance, and it was so voted: That the Librarian be instructed, until otherwise ordered, to furnish the business manager of the BOSTON MEDICAL AND SURGICAL JOURNAL by December first of each year, with the number of members of the Society entitled to receive the JOURNAL on March first of that year, and that that number be considered the minimum number of JOURNALS to be paid for by the Society in each respective year.

He stated that the chairman of the Committee on Membership and Finance was instructed to inform the Council that the committee is prepared to recommend the necessary appropriation to continue the affiliation with the BOSTON MEDICAL AND SURGICAL JOURNAL.

Dr. G. W. Gay read a report on Malpractice Defence for the seven years the act had been in operation:

THE FIRST SEVEN YEARS OF MALPRACTICE DEFENCE.

Report Prepared by the Secretary.

As you know, the Malpractice Act of the Massachusetts Medical Society went into effect following the annual meeting of the Society in June, 1908. By the terms of the act any active Fellow whose dues are paid up has the privileges of defence in a suit for damages for malpractice provided the claim is for services rendered subsequent to the adoption of the act, and provided the suit is entrusted solely to the Society to defend. No damages are paid, should the suit go against the Fellow, and a suit may be settled by the defendant only on the consent of the Society.

During the seven years in which the act has been operative, the secretary has discussed malpractice defence and furnished application blanks to about 18 or 20 Fellows a year, say 130 altogether. Of these 19 have been placed in the hands of the attorney of the Society with the following disposal:

	CASES
Verdict for the defendant	5
Settled	5
Suit withdrawn	3
No suit brought	1
Insurance Co., forced by atty. to defend suit	1
Pending	4
Total	19

During this time the Society has expended for defence	$2885.25
Average cost per year	412.00
(11+ cents per capita annually.)	

As will be seen, no case has been lost thus far. Although defence is provided only for suits brought, in practice many suits are prevented and others are dropped when the plaintiff learns that the Society stands behind its Fellows.

Under the terms of our act the president and secretary handle the malpractice defence. Application is made, usually by telephone, to the secretary, who makes a rough memorandum of the facts in the case for the malpractice files and sends the applicant a printed blank and a copy of the malpractice act. When the pa-

pers have been properly filled out and are returned with a written account of the case and a receipted bill for society dues, the president and secretary consider the circumstances, and accept the case if everything seems to be in proper form. The applicant is told that he may tell the plaintiff's attorney that the case has been placed in the hands of the Society. In the event of threatened suits this has the effect, in a majority of instances, of stopping the proceedings, and nothing further is heard of the threat, and this is the result in most of the suits that have been already entered, as is shown by the fact that but *nineteen* suits have been actually placed in the hands of our attorney out of about *one hundred and thirty* (1 in 6+). considered. Grateful letters have been received from several Fellows who have been defended, and many who have been only threatened have expressed themselves as relieved of much worry of mind and apprehension.

If a suit is sent to our attorney the president and secretary select experts and the Society pays the necessary expenses of its experts, but no fees. The entire subject of malpractice defence was reviewed by a special committee of the Society, that reported to the Council, February 4, 1914, with recommendations. (See Bulletin No. 1, July 1, 1914, Pages 27-30).

Dr. C. M. Green *Moved:* That in cases wherein verdicts or settlements in favor of the defendant are secured, the defendant shall reimburse the Society to the extent of one-half the legal expenses incurred by it. The chair explained that there had been a recent case in which a Fellow was grateful for successful defence and at the suggestion of the president had paid half the cost of defence. On being put to a vote the motion was defeated.

Dr. W. P. Bowers called attention to a conflict between the dates of the meetings of the Massachusetts Medical Society and the American Medical Association next June. He moved and it was *Voted:* That the next annual meeting of the Massachusetts Medical Society shall be held in Boston, June 6 and 7, 1916.

He introduced the following amendment to Chapter II, Section 1, of the by-laws, and after being duly seconded it was adopted by a unanimous vote:

Section 1 of Chapter II shall be amended by transposing the words "unless otherwise ordered by the Council," in the second and third lines of the said Section, and by omitting all of the text after the word "June" in the fourth line, so that the Section as amended, will read as follows:—

The annual meetings of the Society, shall be held, unless otherwise ordered by the Council, in Boston, on the second Wednesday in June.

Dr. A. N. Broughton reported on his attendance, by the president's request, at the hearing given by the Industrial Accident Board in June, 1915, and suggested that the committee of the Society on the Workmen's Compensation Act should take some action to counteract a spirit manifested by the Board that is hostile to the interests of the profession. No action taken.

Adjourned at 1.30 p.m.

WALTER L. BURRAGE,
Secretary.

Miscellany.

CONTINUED RISE IN COST OF DRUGS.

IN previous issues of the JOURNAL we have noted from time to time a continuous rise in the cost of various drugs owing to circumstances attendant upon the European War. Report from New York on September 24 states that this general increase of price has continued, affecting particularly quinine, opium, and the various botanical drugs.

"A fresh advance of 4 cents per ounce is announced by all domestic manufacturers of quinine, bringing prices to a minimum of 40 cents per ounce for quinine sulphate in 100-ounce tins. This represents the highest price, with but one exception, reached by quinine since 1889, a period of twenty-six years. The demand for quinine from the European belligerents has been unabated since the war started, cable inquiries for quantities ranging from 25,000 to 50,000 ounces having been received here periodically since the first of January. The continued strengthening of the market for quinine to a point where prices are today, 14 cents per ounce higher than at the beginning of the European War, has been based partly on the strong statistical position of the article, but is traceable more generally to a gradual elimination of all competition from German and English makers. The latter interests have been hard pressed to supply their own abnormal requirements, with the result that they have been forced into this market.

"Cinchona bark, from which the active principal of quinine is extracted, had been arriving here in normal volume up to the beginning of 1915. Imports for twelve months ended June 30 last totalled 3,944,549 pounds, valued at $561,106, against 3,648,868, worth $464,412, in 1914, and 3,553,239, valued at $357,490, in 1913. Shipments of this bark from Java to Europe have recorded a marked slump within the past eight months, however, total shipments to Europe from January to August having been 6,523,760 Amsterdam pounds, against 10,318,000 Amsterdam pounds for the same time in 1914. A pronounced falling off in the imports of quinine sulphate from Germany, which country had been the mainstay of European consumption, has also been shown, and imports of English-made sulphate have also been negligible. Total imports of foreign sulphate in the year ended June 30 last were 1,829,732 ounces, of the value of $452,348, against 2,879,466 ounces, valued at $624,125, in 1914, and 3,185,984 ounces, valued at $562,924, in 1913. Since Jan. 1, 1915, the imports of foreign sulphate into the United States have been relatively unimportant.

"The above statistics are particularly illuminating, inasmuch as they indicate that, while arrivals of cinchona bark have been within reasonable range of those of preceding years, the de-

cline in imports of the sulphate and the exports of foreign sulphate in twelve months ended June last of 59,467 ounces, against only 172 ounces in the preceding year, have emphasized the fact that a much greater reliance has been placed upon manufacturers in this country. The latter interests now practically have the field to themselves. Whether they will be able to take definite advantage of the reduction in foreign production incidental to the war is doubtful, in view of the agreement existing between Java bark growers and European salts makers. The fundamental basis of this compact was the establishment of a minimum of 6.20 Dutch cents per sulphate unit on sales of manufacturing bark. In view of the above understanding there seems little likelihood that American manufacturers will be permitted to benefit at the expense of their European competitors once normal conditions are restored.

"Unabated buying by various European countries, particularly Russia, of all kinds of narcotics, anesthetics, anodynes, analgesics and disinfectant drugs has been seen in the wholesale drug and chemical market within the past fortnight. This has more than made up for the curtailed demand from domestic consumers, who have generally restricted purchases to small jobbing lots in view of the existing shortage which has kept values at practically prohibitive levels.

"Yesterday further advances were announced in the prices for gum opium to a minimum basis of $8.25 per pound, for powdered to $9.25 per pound, and for granular to $9.50 per pound. The increase is based on the heavy export demand for such opium derivatives as morphine and codeine, as well as upon the poor outlook for 1915 crop in Turkish possessions and the great difficulties encountered in making shipments from the bombarded port of Constantinople to any other destination than Germany. Latest estimates of the Turkish opium crop indicate that not more than 3000 to 3500 cases will be produced. Another important feature in the opium situation is the recent advices from Greece indicating that practically the whole Macedonian crop of opium will this year be shipped to Great Britain, which will cut off the United States. Stocks of opium in bonded warehouses in New York on Aug. 1 last stood at 50,777 pounds against 68,652 pounds on July 1, indicating that over 17,800 pounds had been taken out of this market, presumably for export.

"A great scarcity of bismuth metal, as well as all bismuth preparations has lately developed in the domestic markets owing to a sharp curtailment of the production of bismuth metal in Mexico and a heavy curtailment of imports from other importation points. Domestic manufacturers of bismuth preparations have not been offering other than small amounts for the past three weeks. They are still quoting $2.65 to $3.00 per pound for metallic bismuth, but sales have been consummated all the way from $5 to $6 per pound by second hands. The export demand for all varieties of bismuth has been enormous and is still very heavy. It is stated that stocks are still too limited to enable them to supply ordinary trade requirements.

"One of the recent developments carrying more than usual interest was the advance in price of acetate of lime from a basis of $3.50 and $3.55 per hundredweight, to a basis of $4 and $4.05 per hundredweight. This was brought about by the unusually heavy demand for its by-products, acetone and acetic acid. It is said that there are less than 100 tons of domestic acetone not contracted for today. One recent heavy export order for several thousand tons was flatly refused owing to the dearth of stocks. The demand for acetone from munitions manufacturers has been particularly heavy, while the demand for acetic acid has been large because of the increased operations of domestic as well as English manufacturers of dyestuffs. The shipments of acetate of lime have been pared to the quick in order to permit of the increased export business in acetic acid and acetone. Thus for twelve months ended June 30 last the exports of acetate of lime amounted to but 24,673,247 pounds against 68,160,224 pounds in the corresponding period last year and 80,579,838 pounds in the same time in 1913.

"Such changes as have appeared here among the botanical drugs have again been upward, but movements in the botanical drugs have possessed little more than nominal significance as stocks have become so limited that purchases have been restricted to small jobbing quantities. Kola nuts, sassafras bark, soap bark, juniper berries, vanilla beans, cannabis indica, sage and thyme leaves, gentian and rhatany roots, caraway, coriander, mustard, poppy, anise and celery seed, marjoram and savory leaves, belladonna, aconite, burdock alkanet, German dandelion roots, sloe berries, horehound leaves and quince seeds have all been marked up owing to increasing scarcity. The general situation in botanical drugs offers no hope for replenishment of standard products so long as the war continues. Italian participation in the war prevented the promised outlet for some of the German and Austrian products. Botanicals of Spanish and Italian origin have appeared here, but these have been lacking in quality and have not appealed to the general consuming trade. The question of substitution has come in for a deal of attention. In the case of belladonna leaves, which enter into a distinctive field of consumption, substitution is out of the question, and for the small lots obtainable here $1.75 and $2 per pound is asked, comparing with a price of 50c per pound about a year ago."

Further report from New York on October 6 notes the continuance of the phenomenal rise in the cost of quinine and other drugs.

"The sensational advance in quinine to 90 cents and $1 an ounce marks the highest price within the memory of many members of the

New York wholesale drug trade. Practically all domestic manufacturers of quinine have withdrawn all future offerings, and many of them may be forced to cancel outstanding contracts in view of a shortage of the basic material—cinchona bark. Early this year manufacturers were accepting business in quinine on the basis of 26 cents an ounce. Prices were gradually advanced until a 40-cent an ounce basis was established a few weeks ago.

"With the witdrawal of practically all makers from the market, the speculation among second hands has become intense. Coupled with this are the continued export inquiries for the article, these amounting in many instances to 25,000 and 30,000 ounce lots. The sharp advance in quinine to 90 cents and $1 an ounce discouraged the exporters, however, who state that the London party, where best Continental brands of quinine are obtainable at two shillings one penny an ounce, is lower than the American. Some specialists, who have long been interested in the exportation of the article, state that only in one previous instance has the present value of quinine been exceeded and that twenty years ago when speculators succeeded in inflating the quotation to $6 an ounce. So far as the makers are concerned, the highest price ever exacted by them was in 1886 when the market was on a 73-cent an ounce basis.

"The present extraordinary situation in quinine, which is one of the most important drugs in general usage today, grows out of the reported inability of domestic makers to procure anything like sufficient quantities of cinchona bark out of Amsterdam to supply them with crude material. It is said that London and the continental makers of quinine have succeeded in cornering the cinchona bark market. In connection with this situation it is of interest to note a drop in imports of cinchona bark for the year ended Aug. 1, 1915, to 3,388,920 pounds, which compares with 4,009,635 pounds in 1914 and 3,314,359 pounds in 1913. The imports of foreign sulphate of quinine during the period mentioned fell off to 1,862,056 ounces against 2,717,160 ounces in the corresponding period in 1914, and 3,177,873 ounces in 1913.

CASES OF INFECTIOUS DISEASES reported to the Boston Board of Health for the week ending Oct. 11, 1915, are as follows: Diphtheria, 39, of which 1 was non-resident; scarlatina, 16, of which 3 were non-resident; typhoid fever, 13, of which 3 were non-resident; measles, 7; tuberculosis, 49, of which 6 were non-resident. The death rate of the reported deaths for the week was 14.04.

BELGIAN PHYSICIANS' RELIEF FUND.

REPORT OF THE TREASURER OF THE COMMITTEE OF AMERICAN PHYSICIANS FOR THE AID OF THE BELGIAN PROFESSION FOR THE WEEK ENDING OCTOBER 9, 1915.

No contributions for the week ending October 9, 1915.

Previously reported receipts	$7,866.84
Total disbursements	7,310.04
Balance	$ 556.80

F. F. SIMPSON, M.D., *Treasurer*.
7048 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

CENSORS' EXAMINATION.

The Censors of the Suffolk District Medical Society will meet to examine candidates for admission to the Massachusetts Medical Society at 8 The Fenway, on Thursday, November 11, 1915, at 2 P.M.

Candidates, who must be residents of the Suffolk District or non-residents of Massachusetts, should make personal application to the Secretary and present their medical diplomas at least three days before the examination, between the hours of 4 and 5 P.M.

DAVID CHEEVER,
335 Marlboro St., Boston. *Secretary.*

APPOINTMENTS.

Dr. Harold K. Faber of the Rockefeller Institute for Medical Research, has been appointed assistant professor of pediatrics at Stanford University Medical School.

Dr. Frank A. Hartman has been appointed lecturer in physiology at the University of Toronto.

RECENT DEATHS.

DR. CHARLES R. CROSS, JR., of Brookline, Mass., died on October 8 in a military hospital at Dinard, France, in consequence of a fractured spine received on October 6 in an automobile accident. Dr. Cross, who had been on service during the summer with the Serbian Red Cross, had recently come to Paris and engaged in relief work at Dinard.

DR. FRED L. HIGGINS, who died recently in East Boston of heart disease, was born at Hanover, Mass., in 1865. He had practiced dentistry in Rockland, Mass. and in East Boston.

DR. HOMER G. NEWTON, who died recently at Shelburne, N. Y., was born there in 1835. He graduated from Yale in 1859, and served throughout the Civil War as an army surgeon. Subsequently he settled in Brooklyn, N. Y., where he became known as a leading ophthalmologist, and was one of the founders of the Brooklyn Eye and Ear Hospital.

DR. ALTON E. OLIVER, formerly of Braintree, Mass., died on June 7, 1915, at Hankow, China. He was born at Braintree on September 2, 1883, and graduated from the Tufts Dental School in 1906. Immediately thereafter he went to China on the Red Cross service, and since the close of the Chinese revolution, has been practicing his profession in Hankow.

DR. SAMUEL CHASE THAYER, who died of pneumonia on October 11, at Boston, was born in Waterville, Me., on January 15, 1861. He received the degree of A.B. from Colby University in 1879 and that of M.D. in 1882 from the Bowdoin Medical School. He immediately settled in Boston where he had continued active in the practice of his profession until his death. He is survived by his widow.